ANALYSIS



00002

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CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 01-088

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE: January 21, 1992



1.0 DESCRIPTION OF CASE :

One soil sample was analyzed for TCL Organics-Volatiles, Semivolatiles and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision 2/88.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	REQUESTED	MATRIX
B018P9	A2-01-088-01A	SV & P	SOIL
B018P9 MS	A2-01-088-()1B	SV & P	SOIL
BO18P9 MSD	A2-01-088-01C	SV & P	SOIL
B018P9	A2-01-088-01D	V	SOIL
B018P9 MS	A2-01-088-01E	V	SOIL
B018P9 MSD	A2-01-09B-01F	V	SOIL

3.0 COMMENTS:

3.1 SHIPPING AND DOCUMENTATION :

All samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge and within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 2/10/92 and analyzed in accordance with the EPA CLP SOW.

During the sequence the computer program was interrupted causing it to stop collecting data from the data systems' storage box (interface This interface box can hold only a limited number of sample results after which it begins to overwrite previously stored files. Because of this the data files for the EVAL B standard analyzed at 5:57 on 2/11/92 (B21030 and A21030) and the data file for one sample injection (B21029 and A21029) analyzed at 5:17 on 2/11/92 were over written. The data for the injection made at 5:17 (B21029) was overwritten in the interface box by the injection made at 6:38. The data for the EVAL B injection made at 5:57 (B21030) was overwritten in the interface box by the injection made at 7:18. The EVAL B standard and the sample were set up and re-injected later in the sequence.

The sequence was interrupted after the injection made at 7:18 on 2/11/92 to determine what samples needed to be re-injected. Since the EVAL B had been overwritten, the injections that were made after IND A (B21024) and up to the injection made at 7:18 on 2/11/92 were re-injected. The sequence was restarted with the injection of IND A at 11:04 and IND B at 11:44 on 2/11/92. IND A and IND B were injected to assure that the system still met the Protocol criteria. EVAL B was then injected to resume the sequence.

IND A and IND B were injected consecutively in the sequence at 16:24 and 17:04 on 2/12/92. IND A (B21075) was used for quantitation. The IND B on the confirmation column had a calibration factor for Aldrin above the allowable 20% difference. There was some interference within the injection that co-eluted with Aldrin on the confirmation column but not on the primary column. Therefore, the calibration was still maintained. This standard is not used for quantitation.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth

CLP Program Manager

Dennis D. Wells

Technical Director

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018P9 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201088-01D Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20123R14 Level: (low/med) LOW Date Received: 01/21/92 % Moisture: not dec. 8 Date Analyzed: 01/23/92 Column: (pack/cap) PACK Dilution Factor: 1.0 CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q 74-87-3-----Chloromethane U 11 74-83-9-----Bromomethane 11 U 75-01-4-----Vinyl Chloride 11 U 75-00-3-----Chloroethane 11 U 75-09-2----Methylene Chloride B 8 21 B 67-64-1-----Acetone 75-15-0-----Carbon Disulfide U 5 U 5 75-35-4-----1,1-Dichloroethene 75-34-3----1,1-Dichloroethane 5 U 540-59-0----1,2-Dichloroethene (total) 5 U 5 U 67-66-3-----Chloroform 107-06-2----1, 2-Dichloroethane 5 U U 78-93-3----2-Butanone 11 71-55-6----1,1,1-Trichloroethane U 5 5 U 56-23-5-----Carbon Tetrachloride U 108-05-4-----Vinyl Acetate 11 75-27-4-----Bromodichloromethane 5 U 5 U 78-87-5----1,2-Dichloropropane 10061-01-5----cis-1,3-Dichloropropene 5 U 5 U 79-01-6-----Trichloroethene 124-48-1-----Dibromochloromethane 5 U 5 U 79-00-5-----1,1,2-Trichloroethane 5 U 71-43-2----Benzene 10061-02-6----trans-1,3-Dichloropropene 5 U 75-25-2-----Bromoform 5 U U 108-10-1----4-Methyl-2-Pentanone 11 591-78-6----2-Hexanone 11 U 127-18-4----Tetrachloroethene 5 U U 79-34-5----1,1,2,2-Tetrachloroethane 5 5 U 108-88-3----Toluene 5 U 108-90-7-----Chlorobenzene 5 U 100-41-4-----Ethylbenzene U 5 100-42-5-----Styrene

U

1330-20-7-----Xylene (Total)

9713506.0754

Number TICs found: __0

18

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: TMA/ARLI	Contract: WHC	
Lab Code: TMALA Case No.: 01088	SAS No.: NA SDG	No.: NA
Matrix: (soil/water) SOIL	Lab Sample ID:	A201088-01D
Sample wt/vol: 5.0 (g/mL) G	Lab File ID:	20123R14
Level: (low/med) LOW	Date Received:	01/21/92
% Moisture: not dec8	Date Analyzed:	01/23/92
Column (pack/cap) PACK	Dilution Factor	: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

00007 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: TMA/ARLI Contract: WHC B018P9

Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A

Sample wt/vol: __30.2 (g/mL) G___ Lab File ID: __20131N06___

Level: (low/med) LOW Date Received: 01/21/92

% Moisture: not dec. ___ 8 dec. ___ Date Extracted: 01/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

108-95-2	Phenol	360	U
	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
100-51-6	Benzyl Alcohol	360	U
95-50-1	1,2-Dichlorobenzene	360	U
0E-49-7	2-Wethylphonel	360	U
108-60-1	bis(2-Chloroisopropyl)Ether_	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	IU
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
65-85-0	Benzoic Acid	1700	U
	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	1700	U
	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	360	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

00008 EPA SAMPLE NO.

Lab Name: TMA/ARLI Contract: WHC B018P9

Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20131N06

Level: (low/med) LOW Date Received: 01/21/92

% Moisture: not dec. ____ dec. ___ Date Extracted: 01/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q 99-09-2----3-Nitroaniline 1700 U 83-32-9----Acenaphthene U 360 51-28-5----2,4-Dinitrophenol 1700 U IU 100-02-7----4-Nitrophenol 1700 132-64-9-----Dibenzofuran 360 U 121-14-2----2,4-Dinitrotoluene 360 U 606-20-2----2,6-Dinitrotoluene 360 U 84-66-2-----Diethylphthalate 360 IU 7005-72-3----4-Chlorophenyl-phenylether 360 IU U 86-73-7-----Fluorene 360 IU 100-01-6----4-Nitroaniline 1700 534-52-1----4,6-Dinitro-2-methylphenol 1700 IU 86-30-6----N-Nitrosodiphenylamine (1) IU 360 101-55-3----4-Bromophenyl-phenylether 360 U 118-74-1-----Hexachlorobenzene 360 U 87-86-5-----Pentachlorophenol 1700 IU 85-01-8-----Phenanthrene 360 IU 120-12-7-----Anthracene 360 IU 84-74-2----Di-n-Butylphthalate 360 IU 206-44-0-----Fluoranthene 360 IU 129-00-0-----Pyrene 360 IU 85-68-7-----Butylbenzylphthalate U 360 91-94-1----3,3'-Dichlorobenzidine 710 U 56-55-3-----Benzo(a) anthracene 360 IU U 117-81-7-----bis(2-Ethylhexyl)Phthalate 360 U 218-01-9-----Chrysene 360 360 U 117-84-0-----Di-n-octyl Phthalate 205-99-2----Benzo(b) fluoranthene 360 U 207-08-9----Benzo(k) fluoranthene 360 U 360 IU 50-32-8-----Benzo(a) pyrene U 193-39-5----Indeno(1,2,3-cd)Pyrene 360 53-70-3-----Dibenz(a,h)Anthracene 360 U 191-24-2----Benzo(g,h,i)perylene 360 IU (1) - Cannot be separated from Diphenylamine

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Lab Name: TMA/ARLI Contract: WHC

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018P9

Lab Sample ID: A201088-01A

Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20131N06

Level: (low/med) LOW Date Received: 01/21/92

% Moisture: not dec. ___ 8 dec. ___ Date Extracted: 01/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

Number TICs found: 10

Matrix: (soil/water) SOIL

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	2.38	940	BJ
2.	UNKNOWN ALCOHOL	2.85	22000	BJ
3.	UNKNOWN ALCOHOL	2.93	220	BJ
4.	UNKNOWN ALCOHOL	4.03	290	BJ
5.	UNKNOWN CARBOXYLIC ACID	21.54	180	J
6.	UNKNOWN ALKANE	26.04	140	J
7.	UNKNOWN ALKANE	27.27	220	J
8.	UNKNOWN ALKANE	28.47	360	J
9.	UNKNOWN ALKANE	29.62	250	J
.0.	UNKNOWN ALKANE	30.72	140	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018P9

Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA Lab Sample ID: A201088-01A Matrix: (soil/water) SOIL Lab File ID: Sample wt/vol: 30.3 (g/mL) G Date Received: 01/21/92 Level: (low/med) LOW % Moisture: not dec. 8 dec. __ Date Extracted: 01/27/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/12/92 GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00 CONCENTRATION UNITS: 0 CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG 8.6 U 319-84-6----alpha-BHC 8.6 U 319-85-7-----beta-BHC 319-86-8-----delta-BHC 8.6 U 8.6 U 58-89-9-----gamma-BHC (Lindane) 8.6 U 76-44-8------Heptachlor 8.6 U 309-00-2----Aldrin 8.6 U 1024-57-3-----Heptachlor epoxide 959-98-8-----Endosulfan I 8.6 U 17 U 60-57-1-----Dieldrin 17 U 72-55-9-----4,4'-DDE 17 U 72-20-8-----Endrin U 17 33213-65-9-----Endosulfan II 72-54-8-----4,4'-DDD 17 U 17 U 1031-07-8-----Endosulfan sulfate U 17 50-29-3-----4,4'-DDT U 72-43-5-----Methoxychlor 86 17 U 53494-70-5-----Endrin ketone 5103-71-9-----alpha-Chlordane_ 86 U 5103-74-2----gamma-Chlordane 86 U 170 U 8001-35-2----Toxaphene U 86 12674-11-2----Aroclor-1016 11104-28-2----Aroclor-1221 86 U U 86 11141-16-5-----Aroclor-1232 U 86 53469-21-9-----Aroclor-1242 86 U 12672-29-6----Aroclor-1248 U 170 11097-69-1----Aroclor-1254 170 U 11096-82-5----Aroclor-1260

Westinghouse Hanford Company	13300,07	CHAIN	OF CUSTODY ARLI		
Custody Form Initiator CMCI)An(?				
Company Contact J.D. Fancher			Telephone (509) 376-2081		
Project Designation/Sampling Location	100 HR-3 G W	Zone Sampling			
BH 199-05-74	700 DK 1 1400		Conection Date 1 78 4 &		
Ice Chest No. U-Di			Field Logbook No WHC-N-500		
Bill of Lading/Airbill No.			Offsite Property No.		
Method of Shipment Overnight	Air Delivery				
Shipped to TMA/NORCAL 2030 Wri	ght Ave. Richmond	d Ca. 94804			
Possible Sample Hazards/Remarks M.	aintain at 4°C				
	Sample I	dentification			
B018P9					
(1)1000ml G bottle(Radiochem	istry, Sr 90,	(1)1000ml G b	ottle(Radiochemistry, Sr-90,		
_	C 14, Tc 99)		(-14, Tc-99)		
(1) 250ml G bottle(ICP/AA me	tals,Hg)-	(1) 250ml G bottle(ICP/AX metals, Hg)			
(1) 250ml aG bottle(Semi-VOA, PCB's/PEST.)		(1) 250ml aG bottle(Semi-VOA, PCB's/PEST.)			
(1) 125ml & bottle(Cyanide)			otele(Cyanide)		
(1) 125ml G bottle(VOA)		(1) 125m1 5 b			
		/			
Field Transfer of Custody	CHAIN OF	POSSESSION	(Sign and Print Names)		
elinquished by: CMChanca	Received by:	- 1	Date/Time:		
Long Clance	Kemit 1	Blum	1-21-92 1115		
elindushed by: 1-21-92	Received by Bernard		Date/Time: 1/22/92 /000		
elinquished by:	Received by:		Date/Time:		
delinquished by:	Received by:		Date/Time:		
	Final Samp	le Disposition	1		
	Disposed by:		Date/Time:		

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W	Westinghouse Hanford Comp	апу

SAMPLE ANALYSIS REQUEST

		PART I: FIELD	SECTION
	tact J.D. Fancher		Date Sampled 1-16-92 Time 0906 hours Telephone (509) 376-2081
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
0	1-1000ml glass .	Soil	Gross alpha/beta,Gamma Spec.,Sr-90,Tc-99,C-
0	1-250wl glass	Soil	ICP/AA metals, Hg(CLP)
6018996	1-250ml amber glass	Soil	Semi-VOA, PCB's/PEST.(CLP)
9	-1-125ml glass	Soil	Cyanide(CLP)
2	1-125ml glass	Soil	VOA(CLP)
	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec. Sr-90, Tc-99, C-14
	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
1	1-250ml glass amber	Soil	Semi-VOA, PCB's/PEST.(CLP)
	1-125ml glass	Soil	Cyanide(CLP)
	1-125ml glass	Soil	VOA(CLP)
ield Informati	on**		
pecial Handlin	ng and/or Storage		
ossible Sample	e Hazards		
	-6	PART II: LABORATO	DRY SECTION
eceived by	Kernit Blum	Title Sampl	e Control Supervisor Date 1-21-92

CASE NARRATIVE

1. Project 100-HR-3 GW (TMA/Norcal Group No. 7009) results of the analyses are reported. The sample ID is:

Customer	TMA/Norcal
Sample ID	Group No.
BO18P9	7009-1

2. The analysis reported are:

SO	IL
Analyte	Group # & Sample #
Gross α Gross β ¹⁴ C ⁹⁰ Sr ⁹⁹ Tc Gamma Scan	7009-1 7009-1 7009-1 7009-1 7009-1

- 3. Results are reported pCi/g with 2 σ errors.
- 4. The QC samples consisting of a spike, a laboratory control sample, and a replicate were processed with each batch as shown on Table 1.

TABLE	1
Prepar	ation Batch
Sample	s Processed

Data Package

7009-1

- SOIL

OC SAMPLES PROCESSED:

Sample I.D.		Туре	Analyses	Reported with Data Package
-				
7009-2		Spike	Gross α, β	X
7009-3	(QC 7971)	LCS	Gross α, β	X
7009-4	(QC 7972)	Replicate	Gross α, β	X
7009-2	(QC 7966)	Spike	14 _C	Х
7009 - 3	(QC 7971)	LCS	¹⁴ C	X
7009-4		Replicate	¹⁴ C	X
7009-2	(QC 7964)	Spike	⁹⁰ Sr	X
7009-3	(QC 7969)	LCS	⁹⁰ Sr	X
7009-4	(QC 7974)	Replicate	⁹⁰ Sr	X
7009-2	(QC 7965)	Spike	⁹⁹ Tc	Х
7009-3			⁹⁹ Tc	X
7009-4		Replicate	⁹⁹ Tc	Х
7009-2	(QC 7963)	Spike	Gamma Scan	x
7009-3	(QC 7968)	LCS	Gamma Scan	X
7009-4	(QC 7973)	Replicate	Gamma Scan	X

5. Analysis, reanalysis, and reworks, etc.

<u>Gross Alpha and Gross Beta Analyses</u>: The results of the spike, the laboratory control sample, and the replicate were satisfactory.

<u>Carbon-14 Analyses</u>: The found/added ratio was 0.84 ± 0.03 . The replicate results did not agree well. The QC blanks were high because of cross contamination. Steps are being taken to avoid cross contamination by use of memory blanks. Results of the spike sample was satisfactory.

<u>Strontium Analyses</u>: The yield for 1 analyses was 68%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

<u>Technetium Analyses</u>: The yield for 1 analyses was 23%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

<u>Gamma Scan Analyses</u>: QC sample 7009-2 (QC-7963), spike for gamma scan, and QC sample 7009-3 (QC-7968), blank for gamma scan, were mislabelled in the laboratory; 7009-2 was counted as a blank and 7009-3 was counted as a spike. With the mislabelling considered the found/added ratios for 7009-2 (QC-7963) spike for gamma scan are 60 Co: Found = (1.731 \pm 0.306) E+02, Added: (1.595 \pm 0.0638) E+02; F/A = 1.08 and 137 Cs Found = (1.412 \pm 0.261) E+02, Added: (1.252 \pm 0.0501) E+02; F/A = 1.13, and the results of the spike and blank were satisfactory. No other abnormalities were encountered.

000005

ATTACHMENT 1 DATA TABLE

Collection date: 1/16/92

Customer I.D.	TMA/Norcal Group No. 7009	Analysis	Results pCi/g ± 2 σ	
B018P9 (soil)	1	Gross Alpha Gross Beta 14C 90Sr 99Tc Gamma Scan: 40K 51Cr 60Co 65Zn 134Cs 137Cs 226Ra 228Th 232Th	(2.87 ± 3.10) (9.35 ± 2.10) (13.23 ± 5.88) (2.6 ± 3.2) (1.6 ± 2.6) (1.120 ± 0.099) <1.739 <6.062 <1.892 <6.370 <4.755 (3.524 ± 1.103) (5.469 ± 1.094) (5.009 ± 2.003)	E+00 E+00 E+01 E-01 E+01 E+01 E-02 E-01 E-02 E-01 E-01 E-01

Westinghouse Hanford Company	I SOSMALIT SI	СНА	IN OF CUSTODY	n, com you you d
Custody Form Initiator C M C	hance			
Company Contact J.D. Fancher			Telephone (509) 376-20	081
Project Designation/Sampling Loca	tions 100 BR-1 Vado	<i>J</i> Ose Zone Sampli	ng Collection Date 1-16	92
BH 199-05-14				
Ice Chest No. U-Di			Field Logbook No. WHC-N	1-58 D
Bill of Lading/Airbill No.			Offsite Property No.	
Method of Shipment Overnight	Air Delivery			
Shipped to TMA/NORCAL 2030 Wr		d Ca. 94804		
Possible Sample Hazards/Remarks	Maintain at 4°C			
	Sample I	dentification		
B018P9				
(1)1000ml G bottle(Radioche	mistry,Sr-90,	(1)1000ml	G bottle(Radiochemistry,	Sr-90,
	C-14,Tc-99)		C-14,T	c-99)
(1) 250ml G bottle(ICP/AA m	etals,Hg)	(1) 250ml	G bottle(ICP/AN metals, H	lg)
(1) 250ml aG bottle(Semi-VO	A,PCB's/PEST.)		aG bottle(Semi-VOA,PCB's/	
(1) 125ml G bottle(Cyanide)		(1) 125ml	G bottle(Cyanide)	
(1) 125ml G bottle(VOA)			bottle(VOA)	
Field Transfer of Custody	CHAIN OF	POSSESSION	(Sign and Pri	nt Names
elinquished by: CMChunia	Received by:	21	Date/Time:	
on Jone		Blum		15
elinguished by:	Received by:		Date/Time:	
elinquished by:	Received by:		Date/Time:	
elinquished by:	Received by:		Date/Time:	1
	Final Samo	le Disposition		
			Date/Time:	

(Wastinghouse	
$(\nabla\nabla)$	Megundinonse	
	Westinghouse Hanford Compa	Пу

SAMPLE ANALYSIS REQUEST

		PART I: FIELD	SECTION
<u> </u>	11.01	TAKT I. TIELD	· · · · · · · · · · · · · · · · · · ·
	MChance		Date Sampled 1-16-92 Time 0906 hours
Company Con	tact J.D. Fancher		Telephone (509) 376-2081
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested AlphaSpa
0	1-1000ml glass	Soil	Gross alpha/beta,Gamma Spec.,Sr-90,Tc-99,C-
0	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
B01889	1-250ml amber glass	Soil	Semi-VOA,PCB's/PEST.(CLP)
d	1-125ml glass	Soil	Cyanide(CLP)
-5	1-125ml glass	Soil	VOA(CLP)
()	1 125111 91455		
1	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90, Tc-99, C-14
	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
	1-250ml glass amber	Soil	Semi-VOA, PCB's/PEST.(CLP)
		Soil	Cyanide(CLP)
	1-125ml glass		
	1-125ml glass	Soil	VOA(CLP)
ield Informati	ion**	· · · · · · · · · · · · · · · · · · ·	
pecial Handli	ng and/or Storage		
ossible Sampl	e Hazards		
		PART II: LABORATO	
eceived by	Kermit Blum	Title Samo	le Control Supervisor Date 1-21-92
	· · · · · · · · · · · · · · · · · · ·		

Overnight Delivery

Contractor Westinghouse Hanford Company

OFF-SITE PROPERTY CONTROL

CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)

W92-0-0011 # 20 18.00

	PART I - T	O BE COMPLETED BY OR	RIGINATOR		
Department Env. Eng. & Geote	Section Section	EFSG 1	Ur	Env. Cha	rac. & Sampling
The following items are to I		☑ Contractor	☐ Vendor	. 1	
Routing Air EME	OV.	Contractor	☐ Vendor		
Routing. Air EME	RY	Off-site Custodian			
TMA/NORCAL 2030 WRIGHT AVE		Robert F			
RICHMOND CA 9480	•	Project	Coordinator		
Quantity De	escription (Include	Serial and any Governm			Original Cost
371b) Icoleman are double-Samples are	U-D∖ poly cooler. bagged and pa nonhazardous	Contains solucked in wet ic	l samples t e and vermi	hat culite.	N/A
Sample #: 6	1018P9				
Classified Unclassifi	ed Shipped	Under DOE Contract	Shipped U	nder Contractor's l	Jse Permit Contract
ė –		В	ill of Ladi	ng # <u>250</u> 0	1845303
CERTIFICATION OF THE RADIATION	MONITORING PELEN				
RM Clearance for Public Release	La series	RM Survey		JOEL	Date / /
2000 7 -0 A		/	11/1/1	-	1/2/197
ocation of Property (Area & Bldg.)	Con	tatt			Phone
100 Area 100 HR-3		J. D. Fan			376-2081
Date Ready for Shipment	Cos	Code to be Charged PB213	81241 A	pproximate Date T	
1-20-43			01741		IV/A
Poly and hole (D	Dat	Authorize	1 -0	1.1. 1	Date
signature and Name of Property Control	Cus	todian Date Poperty	Management App	roval	Date 1/20/41
	PARTII	- TO BE COMPLETED BY	SHIPPING		
Signature of Recipient	Ret	urn Order No.	Date Issued	Purchase Order N	o. Date Issued
Date 1.70.93		DISTRIBUTION			
		DISTRIBUTION			

00002

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 01-089

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE: January 21, 1992

1.0 DESCRIPTION OF CASE :

One soil sample was analyzed for TCL Organics-Volatiles, Semivolatiles and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision 2/88.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	REQUESTED	MATRIX
B01BJ0	A2-01-089-01A	SV & P	SOIL
B018J0	A2-01-089-01B	V	SOIL
B018J0 MS	A201-089-01C	V	SOIL
BO18JO MSD	A2-01-089-01D	V	SOIL
B018J0 MS	A2-01-089-01E	SV & P	SOIL
BO18JO MSD	A2-01-089-01F	SV & P	SOIL

3.0 COMMENTS:

3.1 SHIPPING AND DOCUMENTATION :

All samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heater purge and within the CLP S(JW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 2/10/92 and analyzed in accordance with the EPA CLP SOW.

During the sequence the computer program was interrupted causing it to stop collecting data from the data systems' storage box (interface box). This interface box can hold only a limited number of sample results after which it begins to overwrite previously stored files. Because of this the data files for the EVAL B standard analyzed at 5:57 on 2/11/92 (B21030 and A21030) and the data file for one sample injection (B21029 and A21029) analyzed at 5:17 on 2/11/92 were over written. The data for the injection made at 5:17 (B21029) was overwritten in the interface box by the injection made at 6:38. The data for the EVAL B injection made at 5:57 (B21030) was overwritten in the interface box by the injection made at 7:18. The EVAL B standard and the sample were set up and re-injected later in the sequence.

The sequence was interrupted after the injection made at 7:18 on 2/11/92 to determine what samples needed to be re-injected. Since the EVAL B had been overwritten, the injections that were made after IND A (B21024) and up to the injection made at 7:18 on 2/11/92 were re-injected. The sequence was restarted with the injection of IND A at 11:04 and IND B at 11:44 on 2/11/92. IND A and IND B were injected to assure that the system still met the Protocol criteria. EVAL B was then injected to resume the sequence.

IND A and IND B were injected consecutively in the sequence at 16:24 and 17:04 on 2/12/92. IND A (B21075) was used for quantitation. The IND B on the confirmation column had a calibration factor for Aldrin above the allowable 20% difference. There was some interference within the injection that co-eluted with Aldrin on the confirmation column but not on the primary column. Therefore, the calibration was still maintained. This standard is not used for quantitation.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. All of the QC results were within the limits specified by the EPA CLP SOW. However, the confirmation column, though not used for quantitation, had a greater percent recovery for gamma-BHC in both the MS and MSD samples than the primary column. A positive interference may be responsible for raising the concentration of one polarity column versus another. The positive interference may be matrix interference which coelutes on one column while giving complete resolution on the other. Or it is possible that a positive interference may be more apparent on one column of a certain polarity versus that of another polarity. At this time the exact cause for the difference between the two columns is not certain.

All of the QC results were with the limits specified by the EPA CLP SOW.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth CLP Program Manager Dennis D. Wells Technical Director

EPA SAMPLE NO. 1771 VOLATILE ORGANICS ANALYSIS DATA SHEET

B018J0

Lab File ID: 20123R11

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA

Lab Sample ID: A201089-01B Matrix: (soil/water) SOIL

Sample wt/vol: 5.0 (g/mL) G

Date Received: 01/21/92 Level: (low/med) LOW

% Moisture: not dec. 4 Date Analyzed: 01/23/92

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or	ug/ kg)	OG/ NG	· ·
74-87-3	Chloromethane			10	ט
74-83-9	Bromomethane			10	U
75-01-4	Vinyl Chloride			10	U
75-00-3	Chloroethane		_i	10	U
75-09-2	Methylene Chlorid	le		16	B
67-64-1	Acetone		i	27	B
75-15-0	Carbon Disulfide		_i	5	U
75-35-4	1,1-Dichloroether	ne	_ i	5	U
75-34-3	1,1-Dichloroethan	ne		5	U
540-59-0	1,2-Dichloroether	e (total)	_i	5	U
67-66-3	Chloroform	, , , –		5	įυ
	1,2-Dichloroethan	ne		5	U
	2-Butanone		_ i	10	U
71-55-6	1,1,1-Trichloroet	hane	_i	5	U
56-23-5	Carbon Tetrachlor	ride		5	U
108-05-4	Vinyl Acetate			10	U
75-27-4	Bromodichlorometh	ane		5	U
78-87-5	1,2-Dichloropropa	ne	i	5	U
10061-01-5-	cis-1,3-Dichlorop	ropene		5	U
79-01-6	Trichloroethene			5	U
124-48-1	Dibromochlorometh	nane		5	U
	1,1,2-Trichloroet			5	U
	Benzene			5	U
10061-02-6-	trans-1,3-Dichlor	copropene		5	U
	Bromoform			5	U
108-10-1	4-Methyl-2-Pentar	none		10	U
591-78-6	2-Hexanone			10	U
127-18-4	Tetrachloroethene	2		5	U
	1,1,2,2-Tetrachlo			5	U
	Toluene			5	U
	Chlorobenzene			5	U
	Ethylbenzene			5	U
	Styrene			5	U
	Xylene (Total)		— i	- 5	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET 00006 EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

B018J0

Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA Lab Sample ID: A201089-01B fatrix: (soil/water) SOIL Sample wt/vol: 5.0 (g/mL) G Lab File ID: 20123R11 Date Received: 01/21/92 Level: (low/med) LOW Date Analyzed: 01/23/92 & Moisture: not dec. ___4

Dilution Factor: 1.0 Column (pack/cap) PACK

> CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

Number TICs found: __0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
				=====	1
		i			İ

9713506,0773

00007 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018J0

Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA Lab Sample ID: Matrix: (soil/water) SOIL A201089-01A Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20131N09 Level: (low/med) LOW Date Received: 01/21/92 % Moisture: not dec. ___4 dec. Date Extracted: 01/24/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92 GPC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.00 CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q 108-95-2----Phenol 340 IU 111-44-4-----bis(2-Chloroethyl)Ether 340 IU 95-57-8----2-Chlorophenol 340 U 541-73-1----1,3-Dichlorobenzene 340 IU 106-46-7----1,4-Dichlorobenzene 340 IU 100-51-6-----Benzyl Alcohol IU 340 95-50-1----1,2-Dichlorobenzene 340 IU 95-48-7----2-Methylphenol IU 340 340 108-60-1-----bis(2-Chloroisopropyl)Ether IU 106-44-5----4-Methylphenol 340 U 621-64-7----N-Nitroso-Di-n-Propylamine 340 U 67-72-1-----Hexachloroethane 340 IU 98-95-3----Nitrobenzene 340 U 78-59-1-----Isophorone 340 IU 88-75-5----2-Nitrophenol 340 U 105-67-9----2,4-Dimethylphenol 340 IU 65-85-0-----Benzoic Acid 1600 U 111-91-1-----bis(2-Chloroethoxy) methane 340 U 120-83-2----2, 4-Dichlorophenol 340 U 120-82-1----1,2,4-Trichlorobenzene 340 IU 91-20-3-----Naphthalene 340 IU 106-47-8----4-Chloroaniline 340 IU 87-68-3-----Hexachlorobutadiene 340 U 59-50-7----4-Chloro-3-methylphenol 340 IU 91-57-6----2-Methylnaphthalene 340 IU 77-47-4-----Hexachlorocyclopentadiene 340 U 88-06-2----2,4,6-Trichlorophenol 340 IU 95-95-4----2,4,5-Trichlorophenol 1600 U 91-58-7----2-Chloronaphthalene IU 340 88-74-4----2-Nitroaniline 1600 U 131-11-3-----Dimethyl Phthalate 340 U 208-96-8-----Acenaphthylene 340 IU

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018J0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201089-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20131N09

Date Received: 01/21/92 Level: (low/med) LOW

% Moisture: not dec. ___ 4 dec. __ Date Extracted: 01/24/92

(SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92 Extraction:

Dilution Factor: 1.00 GPC Cleanup: (Y/N) N pH: 9.9

CONCENTRATION UNITS: CAS NO COMPOUND (ug/I or ug/Kg) IIG/KG

	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	340	U
	Anthracene	340	U
84-74-2	Di-n-Butylphthalate	340	U
	Fluoranthene	340	U
129-00-0	Pyrene	1 340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	680	U
56-55-3	Benzo(a) anthracene	340	U
117-81-7	bis(2-Ethylhexyl)Phthalate	340	U
218-01-9	Chrysene	340	טן
117-84-0	Di-n-octyl Phthalate	340	U
205-99-2	Benzo(b) fluoranthene	340	U
207-08-9	Benzo(k) fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)Pyrene	340	U
53-70-3	Dibenz(a,h)Anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

97 13506 0775

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

B018J0

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201089-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20131N09

Level: (low/med) LOW Date Received: 01/21/92

% Moisture: not dec. 4 dec. Date Extracted: 01/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

GPC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.00

CONCENTRATION UNITS:

Number TICs found: 6 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
		=======		=====
1.	UNKNOWN HYDROCARBON	2.23	380	J
2.	UNKNOWN ALCOHOL	2.38	930	BJ
3.	UNKNOWN ALCOHOL	2.85	20000	BJ
4.	UNKNOWN ALCOHOL	2.93	210	BJ
5.	UNKNOWN ALCOHOL	4.03	270	BJ
6.	UNKNOWN PHTHALATE	21.57	170	J

9713506,0776

00010 EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018J0

Lab Name: TMA/ARLI ____ Contract: WHC Lab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201089-01A Sample wt/vol: 30.2 (g/mL) G Lab File ID: Level: (low/med) LOW Date Received: 01/21/92 % Moisture: not dec. 4 Date Extracted: 01/23/92 dec. Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/12/92 GPC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.00 CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q 8.3 U 319-84-6-----alpha-BHC 319-85-7-----beta-BHC 8.3 U 319-86-8-----delta-BHC 8.3 U 58-89-9----gamma-BHC (Lindane) 8.3 U 76-44-8-----Heptachlor 8.3 U 309-00-2-----Aldrin 8.3 U 1024-57-3-----Heptachlor epoxide 8.3 U 959-98-8-----Endosulfan I 8.3 U 60-57-1-----Dieldrin U 17 72-55-9-----4,4'-DDE 17 U 72-20-8-----Endrin 17 U U 33213-65-9-----Endosulfan II 17 17 U 72-54-8-----4,4'-DDD U 1031-07-8-----Endosulfan sulfate 17 50-29-3-----4,4'-DDT 17 U 72-43-5-----Methoxychlor 83 U U 53494-70-5----Endrin ketone 17 5103-71-9-----alpha-Chlordane 83 U 83 U 5103-74-2-----gamma-Chlordane 8001-35-2----Toxaphene 170 U U 12674-11-2----Aroclor-1016 83 11104-28-2----Aroclor-1221 83 U 83 U 11141-16-5-----Aroclor-1232 83 U 53469-21-9----Aroclor-1242 U 12672-29-6----Aroclor-1248 83 U 170 11097-69-1-----Aroclor-1254 170 U 11096-82-5----Aroclor-1260

EPA SAMPLE NO. U777 VOLATILE ORGANICS ANALYSIS DATA SHEET

ab Name: TMA/ARLI Contract: WHC B018J0

ab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA

atrix: (soil/water) SOIL Lab Sample ID: A201089-01B

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20123R11

evel: (low/med) LOW Date Received: 01/21/92

Moisture: not dec. 4 Date Analyzed: 01/23/92

olumn: (pack/cap) PACK Dilution Factor: 1.0

CAS NO. COMPOUND COMP

CAS NO.	COMPOUND (ug/L of	ug/kg) <u>ug/kg</u>	Q
	Chloromethane	10	טו
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	27	B
	Carbon Disulfide	5	IU
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	IU
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	iσ
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5-	cis-1,3-Dichloropropene	5 5	U
79-01-6	Trichloroethene	5	U
	Dibromochloromethane	5	U
	1,1,2-Trichloroethane	5	U
	Benzene	5	U
10061-02-6-	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	IU
108-10-1	4-Methyl-2-Pentanone	10	U
	2-Hexanone	1 10	U
	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
	Toluene	5	U
108-90-7	Chlorobenzene	5	Ü
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
	Xylene (Total)	5	iv

97 | 3506 - 0778

1E

00041 EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

B01**8J0**

ab Name: TMA/A	RLI	Contract: WHC		
ab Code: TMALA	Case No.: 01089	SAS No.: NA	SDG No.: NA	
atrix: (soil/wa	ater) SOIL	Lab Sam	ple ID: A201089	-01B
ample wt/vol:		Lab Fil	e ID: 20123R	1
evel: (low/	med) <u>LOW</u>	Date Re	ceived: 01/21/5	2
Moisture: not	dec4	Date An	alyzed: 01/23/9	2
olumn (pack/	cap) PACK	Dilutio	n Factor: 1.0	
umber TICs four	nd: <u>0</u>	CONCENTRATION (ug/L or ug/K		
CAS NUMBER	COMPOUND	NAME RT	EST. CONC.	Q

9713506.0779

1B SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

00117 EPA SAMPLE NO.

B018J0 Contract: WHC ab Name: TMA/ARLI ab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA matrix: (soil/water) SOIL Lab Sample ID: A201089-01A ample wt/vol: 30.3 (g/mL) G Lab File ID: 20131N09 Level: (low/med) LOW Date Received: 01/21/92 Date Extracted: 01/24/92 Moisture: not dec. ___ dec. ___ Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92 PC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.00 CONCENTRATION UNITS: COMPOUND CAS NO. (ug/L or ug/Kg) <u>UG/KG</u>

108-95-2Phenol	340	ט	-
111-44-4bis(2-Chloroethyl)Ether	340	U	i
95-57-82-Chlorophenol	340	Ü	i
541-73-11,3-Dichlorobenzene	340	U	i
106-46-71,4-Dichlorobenzene	340	U	i
100-51-6Benzyl Alcohol	340	U	i
95-50-11,2-Dichlorobenzene	340	U	i.
95-48-72-Methylphenol	340	U	i
108-60-1bis(2-Chloroisopropyl)Ether	340	U	i
106-44-54-Methylphenol	340	U	i
621-64-7N-Nitroso-Di-n-Propylamine	340	U	i
67-72-1Hexachloroethane	340	U	i
98-95-3Nitrobenzene	340	U	i
78-59-1Isophorone	340	U	i
88-75-52-Nitrophenol	340	U	i
105-67-92,4-Dimethylphenol	340	U	i
65-85-0Benzoic Acid	1600	U	i
111-91-1bis(2-Chloroethoxy) methane	340	U	i
120-83-22,4-Dichlorophenol	340	U	i
120-82-11,2,4-Trichlorobenzene	340	U	i
91-20-3Naphthalene	340	U	i
106-47-84-Chloroaniline	340	IU	i
87-68-3Hexachlorobutadiene	340	U	i
59-50-74-Chloro-3-methylphenol	340	Ü	i
91-57-62-Methylnaphthalene	340	U	i
77-47-4Hexachlorocyclopentadiene	340	U	i
88-06-22,4,6-Trichlorophenol	340	U	i
95-95-42,4,5-Trichlorophenol	1600	Ü	i
91-58-72-Chloronaphthalene	340	Ü	1
88-74-42-Nitroaniline	1600	טו	1
131-11-3Dimethyl Phthalate	340	Ü	-
208-96-8Acenaphthylene	340	U	1

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

-	PHIL A OTHER T	LL ONGAN	TOO MINDI	DID DAIR L	, IIII				
ab Name: 1	rma/arli			Contract	WHC		_	B018	JO
ab Code: 1	rmala_	Case No.	01089	SAS No.:	NA		SDG 1	No.: N	λ
atrix: (so	oil/water)	SOIL			Lab	Sample	ID:	A2010	89-01A
ample wt/v	vol:	30.3	(g/mL) G	_	Lab :	File I	D:	20131	N09
evel:	(low/med)	LOW			Date	Recei	ved:	01/21	/92
Moisture:	not dec.	4	dec	_	Date	Extra	cted:	01/24	/92
xtraction:	(SepF/	Cont/Son	s) <u>so</u>	NC	Date	Analy	zed:	01/31	/92
PC Cleanup	p: (Y/N)	N	рн:	9.9	Dilu	tion Fa	actor	1.00	
CAS	NO.	COMPO	UND			ION UNI			Q
99-0	09-2	3-Nit	roaniline			-	160	ט סס	

CAS NO.	COMPOUND	(ug/L or	ug/Kg) <u>UG/</u>	KG	Q
99-09-2	3-Nitroaniline			1600	U
	Acenaphthene				U
51-28-5	2,4-Dinitropheno	01	i		U
100-02-7	4-Nitrophenol				U
32-64-9	Dibenzofuran		i		U
121-14-2	2,4-Dinitrotolue	ne			U
606-20-2	2,6-Dinitrotolue	ne	i	340 I	U
84-66-2	Diethylphthalate			340	U
7005-72-3	4-Chlorophenyl-p	henylether	_i		U
	Fluorene				U
100-01-6	4-Nitroaniline			1600	U
534-52-1	4,6-Dinitro-2-me	thylphenol	i	1600 j	U
86-30-6	N-Nitrosodipheny	rlamine (1)	_ i	340	U
101-55-3	4-Bromophenyl-ph	enylether	<u> </u>	340	U
118-74-1	Hexachlorobenzer	ie		340 I	U
87-86-5	Pentachloropheno	01	_i	1600 I	U
35-01-8	Phenanthrene			340	U
	Anthracene			340	U
84-74-2	Di-n-Butylphthal	ate	i	340	U
	Fluoranthene			340	U
129-00-0	Pyrene			340	U
35-68-7	Butylbenzylphtha	late		340	U
1-94-1	3,3'-Dichlorober	nzidine		680	U
56-55-3	Benzo(a) anthrace	ene		340	U
117-81-7	bis(2-Ethylhexy)) Phthalate		340	U
	Chrysene_			340	U
	Di-n-octyl Phtha			340	U
205-99-2	Benzo(b) fluorant	hene		340	U
207-08-9	Benzo(k) fluorant	hene		340	U
50-32-8	Benzo(a)pyrene			340	U
193-39-5	Indeno(1,2,3-cd)	Pyrene			U
53-70-3	Dibenz (a, h) Anthr	cacene			U
191-24-2	Benzo(g,h,i)pery	lene			U

9713506_0781

TENTATIVELY IDENTIFIED COMPOUNDS

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018J0

ab Name: TMA/ARLI Contract: WHC

ab Code: TMALA Case No.: 01089 SAS No.: NA SDG No.: NA

Lab Sample ID: A201089-01A atrix: (soil/water) SOIL

ample wt/vol: 30.3 (g/mL) G Lab File ID: 20131N09

Date Received: 01/21/92 evel: (low/med) LOW

Date Extracted: 01/24/92 Moisture: not dec. ____ dec. ____

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

PC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.00

CONCENTRATION UNITS:

umber TICs found: 6 (ug/L or ug/Kg) UG/KG

	1	1			ĺ
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	i
			22222245 2 232	****	١
1.	UNKNOWN HYDROCARBON	2.23	380	J	İ
2.	UNKNOWN ALCOHOL	2.38	930	BJ	İ
3.	UNKNOWN ALCOHOL	2.85	20000	BJ	ĺ
4.	UNKNOWN ALCOHOL	2.93	210	BJ	ĺ
5.	UNKNOWN ALCOHOL	4.03	270	BJ	1
6.	UNKNOWN PHTHALATE	21.57	170	J	١

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

B018J0

ab Name: TMA/ARLI Contr	ract: WHC
Lab Code: TMALA Case No.: 01089 SAS	No.: NA SDG No.: NA
Matrix: (soil/water) SOIL	Lab Sample ID: A201089-01A
Sample wt/vol: 30.2 (g/mL) G	Lab File ID:
Level: (low/med) LOW	Date Received: 01/21/92
Moisture: not dec4 dec	Date Extracted: 01/23/92
Extraction: (SepF/Cont/Sonc) SONC	Date Analyzed: 02/12/92
GPC Cleanup: (Y/N) N pH: 9.9	Dilution Factor: 1.00
CAS NO. COMPOUND (u	ONCENTRATION UNITS: lg/L or ug/Kg) <u>UG/KG</u> Q
319-84-6beta-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane) 76-44-8Heptachlor 309-00-2Aldrin 1024-57-3Heptachlor epoxide 959-98-8	8.3 U 8.3 U 8.3 U 8.3 U 8.3 U 8.3 U 8.3 U 8.3 U 8.3 U 17 U 17 U 17 U 17 U 17 U 17 U 17 U 17
8001-35-2Toxaphene 12674-11-2Aroclor-1016 11104-28-2Aroclor-1221 11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	170 U U U U U U U U U U U U U U U U U U U

nunce			
		-	
		Telephone (509	376-2081
	se Zone Sampling	Collection Date	1-15.42
		Field Logbook N	WHC-N-56A
		Offsite Property	No. W92-0-0011
Air Delivery			
tht Ave. Richmond	Ca. 94804		
intain at 4°C			
Sample Id	dentification		
stry, Sr-90,	(1)1000ml G b	ottle(Radiochem	istry, Sr-90.
C-14, Tc-99)		/	C-14,Tc-99)
als,Hg)	(1) 250ml G b	ottle(ICP/AA me	tals, Hg)
	(1) 250ml aG	bottle(Semi-VOA	,PCB's/PEST.)
		/	
	(1) 125ml G &	ottle(VOA)	
	/		
	1		and the second s
CHAIN OF F	POSSESSION	(Sign	and Print Names)
Received by:		Date/Time:	1
Kermit	Blum	1-21-92	1115
Received by:		Date/Time:	
1 Der	non	1/22/92	1000
Received by:		Date/Time:	
Received by:		Date/Time:	
Final Sample	e Disposition		
Disposed by:		Date/Time:	
	Sample lo Sample	Sample Identification Sample Identification Sample Identification Sample Identification (1) 1000ml G b (1) 250ml G b (1) 125ml G b (1) Received by: Received by: Received by: Received by:	Air Delivery Shit Ave. Richmond Ca. 94804 Sample Identification Sample Identification (1) 1000ml G bottle(Radiochem C-14, Tc-99) Sals, Hg) (1) 250ml G bottle(ICP/AA me (1) 125ml G bottle(Semi-VOA (1) 125ml G bottle(Cyanide) (1) 125ml G bottle(VOA) CHAIN OF POSSESSION (Sign Received by: Date/Time: 1/22/92 Received by: Date/Time: Received by: Received by: Date/Time:

(W)	Westinghouse Hanford Company
	namoru company

dicate whether sample is soil, sludge, water, etc.

SAMPLE ANALYSIS REQUEST

ector C	Mchance		Date Sampled 1-15-92 Time 0920 hours
npany Con	tact J.D. Fancher		Telephone (509) 376-2081
ample lumber	Number and Type of Sample Containers	Type of Sample*	Analysis Requested Alpha Spe C
0	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec., Sr=90, Tc-99, C
0	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
18706	1-250ml amber glass	Soil	Semi-VOA, PCB's/PEST. (CLP)
0	1-125ml glass	Soil	Cyanide(CLP)
2	1-125ml glass	Soil	VOA(CLP)
	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90,Tc-99,C-1
/	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
/	1-250ml glass amber	Soil	Sem1-VOA, PCB's/PEST. (CLP)
1	1-125ml glass	Soil	Cyanide(CLP)
	1-125ml glass	Soil	VOA(CLP)
Informati	on**		
ial Handlin	ng and/or Storage		
ble Sample	e Hazards		
		AOTH, LABORATO	BY SECTION!
		ART II: LABORATO	
	Kermit Blum	=: (e Costrol Supervisor Date 1-21-92

97 3506 DESTINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

SAMP	LE	NOMBI	EK:

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER

Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-015

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

91.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

	1				1
CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5620.00	-;		P
7440-36-0	Antimony	1.70	U	N	!P
7440-38-2	Arsenic	3.001	1		\F
7440-39-3	Barium	60.20		E	1P
7440-41-7	Beryllium	0.21	U		IP.
7440-43-9	Cadmium	0.21	U		!P
7440-70-2	Calcium	7500.001	1		!P
7440-47-3	Chromium	10.80			1P
7440-48-4	Cobalt	8.601	B		IP.
7440-50-8	Copper	24.20	-		1P
7439-89-6	Iron	15800.00	. 1		IP.
7439-92-1	Lead	3.40		3 2 3 3	IF
7439-95-4	Magnesium	4710.00	*	The state of the state of	P
7439-96-5	Manganese	302.00	ç. (N production	IP?
7439-97-6	Mercury	0.10	U	1 444 1644	CV
7440-02-0:	Nickelan	11.70			IP.
7440-09-7	Potassium	825.00	B	A Marines	P
7782-49-2	Selenium	0.81		W	!F
7440-22-4	Silver	0.42	Ü	Marie and the	!P
7440-23-5	Sodium	133.00			IP.
7440-28-0	Thallium	0.41			!F
7440-62-2	Vanadium	34.80			!P
7440-66-6	Zinc	35.40			IP
	Cyanide	5.50		1	AS
	!				

Color Before: BROWN

Clarity Before:

Color After: BROWN

Clarity After:

Artifacts: YES

Comments: STONES

002

9713506. WESTINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

 SAMPLE	NUMBER:
-	

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-01-165SAS No.:

SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-028

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

96.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

	7429-90-5	1				
	7429-90-5	A 1				
1		Aluminum	3610.00			IP I
	7440-36-0	Antimony	1.50	U	N	IP !
- 1	7440-38-2	Arsenic	1.30	В	,	F :
	7440-39-3	Barium	67.40		E	IP !
(7440-41-7	Beryllium	0.38	В		IP !
1	7440-43-9	Cadmium	0.19	U		IP I
1	7440-70-2	Calcium	2560.00			IP
1	7440-47-3	Chromium	11.00			IP !
1	7440-48-4	Cobalt	3.30	B		IP !
	7440-50-8	Copper	10.50		1	1P 1
1	7439-89-6	Iron	6620.00			IP !
1	7439-92-1	Lead	2.30		State	IF.
1	7439-95-4	Magnesium	2920.00	12hg.	10 Sec. 1	P
1	7439-96-5	Manganese	432.00	5	N	IP 1
-	7439-97-6	Mercury	0.09	U	and a second	CV!
	7440-02-0	Nickel	17.10		7.	P
	7440-09-7	Potassium	663.00	В		IP I
	7782-49-2	Selenium	0.81	U		IF I
1	7440-22-4	Silver	0.38	Ü		P
	7440-23-5	Sodium	129.00	B	1	IP !
-	7440-28-0	Thallium	0.41	U	1	F
	7440-62-2	Vanadium	12.70		ŧ	P
1	7440-66-6	Zinc	16.90			IP
	!	Cyanide	5.00	U	!	ASI
		1		_		1_1

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts: YES

Comments:

STONES

003

FORM I - IN

Rev. 6/89

WORKORDER 52-	erman labs / BAMI 0(-152 CLIENT	ANFORD- NOT	N L	No.	SAMPLES:	
CUSTODY SEAL: PF SHIPER & # CONTAGE: PRESENT/F	TURNARND 33 d OC, OF NA OC	SI CT/NOT CI PC	Soil) (Wa DG/BATCH LIENT CASE D/CONTRACT# DNTACT Dolo	NIA N2-01	-165 Sanche 7	Other)
	ERS-INTACT/BROKEN					
SAMPLE LABELS A	AGREE WITH CHAIN OF	F CUSTODY PLES & CO	INFO? YES/ C? MES /NO	NO (COMM	OMMENT) ENT)	
SHIPMENT DATES LIST ANY DATE V	1/22/02 VITH PAPERWORK/SHI	PMENT PRO	BLEMS & SPE	CIFY	THE PROB	LEM:
		Ala				
		10 (1)				
CLIENT ID 1 By 8 JO 2 J P9 3	SOIL OI 22/97	QC	TEST(S)	N	CA	TIME UP
4 5 6 7				2		1- due 2/07/97
9 10 11 16.5 12				or Marine to	h 55	Notice of
13 14 15 16 17						
18 19 20 21 22			1/00	19	7	
23 24 25 26 27	COMPLE		011			
SUBCONTRACT: Y	ES/NO, TO:	Per		ATE:_		

EEDERAL.	QUESTIONS? CALL 800-238-5355 TO	ILL FREE.		AIRBILL PACKAGE TRACKING NUMBER	14144524	DL
1275M 141	4452406			and the second	The attention	6-1-5
	Date.			RECIPIEN	t's copy	
From (Your Name) Please Print Sample Co.		umber (Very Important)	To (Recipient's N	ame) Please Print	(617) 690	
Company T !! A /NOPCAL		Department/Floor No.	Company	NNER & She	RMAN Departs	ment/Floor No.
Street Address			Exact Street Addr		7. Zio Coduc.)	
2030 WRIGHT AVE			300	^	C ··	
Cay	State ZIP Require	d	City /)	il .	State ZIP Required	,
SICHWOND	CA 9 4	8 0 4	Wal	tham r	17 0225	7
	106 Fogex Accl No 3 Bill 3rd Party Fodex Accl No		Card	IF HOLD FOR PICK-UP, Print FEDE Street Address City	State ZIP Required	
Check Check	וה אל הוו יותר בי אב הוו	是多是	ราง โดยก็ก	7		
SERVICES (Check only one box)	ØELIVERY AND SPECIAL HANDLING (Check services required)	MCKAGES WEIGHT	VOLAN DECLAMED WALLIE	Empl. No. Date	/ DOGGE	Express Use
Priority Overnight Standard Overnight	V	1 79		Cash Received	Base Char	ges
(Delivery by next business morning!) (Delivery by next business alternoon!)	1 HOLD FOR PICK-UP (Fa in Box H)	1 51		☐ Third Party ☐ Chg To Del	Chg. To Hold Declared	Value Charge
11 POUR 51 PACKAGING 51 PACKAGING	2 DELIVER WEEKDAY		-	Street Address	•	1
16 FEDEX LETTER * 56 FEDEX LETTER *	3 DELIVER SATURDAY (Exira charge)		1	A, '	Other 1	
12 FEDEX PAK * 52 FEDEX PAK *	4 DANGEROUS GOODS (Extra charge)	Total Total a	Total_ +	City Stat	a' Zip Other 2	
13 FEDEX BOX 53 FEDEX BOX	5	179		Received By:		~
14 FEDEX TUBE 54 FEDEX TUBE Economy Two-Day Government Overnight	8 ORY ICE Los	DIM SHIPMENT (Chair	mobile Ministra	x Nonto	Total Char	ges
(Debvery by second business day t) Protected for surround vairs only	7 OTHER SPECIAL SERVICE	C. J. Shirmen (Creat	posura vvergra)	Date/Time Received FedEx	Employee Number REVISION DA	TE 6/91 04 FXEM 9/91
La terren	SATURDAY PICK-UP		lbs.	1/22/92	9:30 PART #13720)4 FXEM 9/91 99 .
41 GOVT PACKAGE	2114	1 2 .25	11		000	
Freight Service	(Extra Change)	In X har X	31	2.	1099	
(In: Exist Large of any package over 150 to) OVERNIGHT TO OVERNIGHT TO TWO-DAY	10 🔲	ABCENA 1/D Regular Sloor	ed Al	Release Signature:	● 1990-91 F	
OMERANCHY		Regular Stop	ad At 3 □ Drop Bet A 4 □ B S d 5 □ Station			

Westinghouse Hanford 7 3.	506_0789	CHAIN O	FCUSTODY S&S
Custody Form Initiator CMCho	An(P		•
Company Contact J.D. Fancher			Telephone (509) 376-2081
Project Designation/Sampling Locations	100 BR 1 Vadose	Zone Sampling	
BH 199-05-14			
ice Chest No. U-Di			Field Logbook No. WHC-N-58 D
Bill of Lading/Airbill No.			Offsite Property No.
Method of ShipmentOvernight Air	r Delivery		
Shipped to TMA/NORCAL 2030 Wright		a. 94804	
Possible Sample Hazards/Remarks Mail			
	Sample Iden	tification	
B018P9			
(1)1000ml G bottle(Radiochemis	try.Sr-90.	(1)1000ml G bo	ttle(Radiochemistry, Sr-90,
- C	-14,7c-99)		(-14,Tc-99)
(1) 250ml G bottle(ICP/AA meta		(1) 250ml G bo	ttle(ICP/AK metals, Hg)
(1) 250ml aG bottle(Semi-YOA,PO	CB's/PEST.)	(1) 250ml aG b	ottle(Semi-VOA,PCB's/PEST.)
(1) 125ml G bottle(Cyanide)	and the second	(1) 125ml G bo	tele(Cyanide)
(1) 125ml G bottle(VOA)	and the second s	(1) 125ml 6 bo	
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	-		
Field Transfer of Custody	CHAIN OF PO	SSESSION	(Sign and Print Names)
elinquished by: CMChanca	Received by:		Date/Time:
Cong Clance	Kernit Bl	um	1-21-92 1115
telinguished by: 1-21-92	Received by:		Date/Time:
Kermit Blum	Alib		1/22/92 9:30
telinquished by:	Received by:		Date/Time:
Relinquished by:	Received by:		Date/Time:
			0.
	Final Sample D	Disposition	
Disposal Method;	Disposed by:		Date/Time:
comments: 24			

6	Wastlaghausa	7/	JUL	a.U.
$(\underline{\mathbf{w}})$	Westinghouse Hanford Company			

SAMPLE ANALYSIS REQUEST

		PART I: FIELD	SECTION
Collector C	MChance		Date Sampled 1-16-92 Time 0906 hours
Company Cont	tact J.D. Fancher		Telephone (509) 376-2081
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested AlphaSpa
0	1-1000ml glass	Soil	Gross alpha/beta,Gamma Spec.,Sr=90,Tc-99,C-
0	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
B0189%	1-250ml amber glass	Soil	Semi-YOA, PCB's/PEST. (CLP)
d	1-125ml glass	Soil	Cyanide(CLP)
-	1-125ml glass	Soil	VOA(CLP)
/	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90, Tc-99, C-14
	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
(1-250ml glass amber	Soil	Semt-VOA,PCB's/PEST.(CLP)
C. Salder	1-125ml glass	Soil	Cyanide(CLP)
and the same of th	1-125ml glass	Soil	VOA(CLP)
r's wee	-		· · · · · · · · · · · · · · · · · · ·
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			•
ield Informat	ion**		
pecial Handli	ng and/or Storage		
ossible Samp	e Hazards		
		PART II: LABORATO	
	Kernit Blum	Title Samp	le Control Supervisor Date 1-21-92
Analysis Requi	125	• • • •	

^{*}Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

* Westinghouse Hanford 7	3506 0791	CHAIN C	FCUSTODY SES	b
Custody Form Initiator CMCh	unip			
Company Contact J.D. Fancher			Telephone (509) 376-2081	
Project Designation/Sampling Location	s _100 DR-1 Vadose	Zone Sampling		
BH 116-DR-9A				
Ice Chest No. 5ML-99			Field Logbook No. WHC-N-56A	
Bill of Lading/Airbill No.			Offsite Property No. W92-0-0011	*
Method of ShipmentOvernight Ai	r Delivery		Onsite Property No. WIND ODII	_
Shipped to TMA/NORCAL 2030 Wrigh		a. 94804		
Possible Sample Hazards/Remarks Mai		4. 31001	. ,	
Possible Sample Hazards/Remarks 1141			•	-
	Sample Ider	ntification		_
BD1370				
Grow Alpha/Beta, G		(1)1000ml G bo	ottle(Radiochemistry, Sr-90,	
	2-14, Tc-99)	(1/1000111	C-14, Tc-99)	_
		(1) 250ml C be		_
(1) 250ml G bottle(ICP/AA meta			ottle(ICD/AA metals, Hg)	_
(1) 250ml aG bottle(Semi VOA,F	CB S/PEST.)		oottle(Semi-VOA,PCB's/PEST.)	
(1) 125ml G bottle(Cyanide)			ottle(Cyanide)	
(1) 125ml G bottle(VOA)		(1) 125ml G 60	Notes of the	
grander to the second of the s			Company of the same of the sam	Wild Wild
	The second secon	-/	A. A.	Target.
	A SERVICE OF THE PROPERTY OF T	<i></i>		**************************************
☐ Field Transfer of Custody	CHAIN OF PO	SSESSION	(Sign and Print Names)
Relinquished by: CMChance	Received by:		Date/Time:	
Com Chan	Kermit B	blum	1-21-92 1115	
Relinquished by: 1-21-92	Received by:		Date/Time:	
Kernik Blum	11/1/2		1/22/92 9:30	
Relinquished by:	Received by:	,	Date/fime:	,
Relinquished by:	Received by:		Date/Time:	
	1.			
	Final Sample (Disposition		
Disposal Method:	Disposed by:		Date/Time:	
Comments: #26				

(382)	Westinghouse	
(E)	Westinghouse Hanford Company	

SAMPLE ANALYSIS REQUEST

ollector _C	MChance		Date Sampled 1-15-92 Time 0920 hours
ompany Cont	tact J.D. Fancher		Telephone (509) 376-2081
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested Alpha Spec
0	1-1000ml glass	Soil	Gross alpha/beta,Gamma Spec ,Sr-90,Tc-99,C-
0	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
3018706	1-250ml amber glass	Soil	Semi-VOA, PGB's/PEST. (GLP)
0	1-125ml glass	Soil	Cyanide(CLP)
	1-125ml glass	Soil	VOA(CLP)
	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90,Tc-99,C-14
	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
. (1-250ml glass amber	Soil.	Semi-VOA,PCB's/PEST.(CLP)
the trop	1-125ml glass	Soil	Cyanide(CLP)
	1-125ml glass	Soil	VOA(CLP)
Parker was			200 18 2 200 20 20 20 20 20
Market As as			
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			•
eld Informati	ion**	l	4
leid intormati	ion		
necial Handlin	ng and/or Storage		
pecial Hallani	ing and/or storage		
ossible Sampl	e Hazards	-	
		PART II: LABORATO	the state of the s
eceived by _	Kermit Blum	Title Some	le Coutrol Supervisor Date 1-21-92
, 3.3	107		

*Indicate whether sample is soil, sludge, water, etc.
**Use back of page for additional information relative to sample location.

CASE NARRATIVE

LABORATORY: TMA/ARLI

CASE : 01-095

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : January 23, 1992

1.0 DESCRIPTION OF CASE :

One soil sample was analyzed for TCL Organics-Volatiles, Semivolatiles and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision 2/88.

ANAL VETE

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	REQUESTED	MATRIX
B018T5	A2-01-095-01A	P & SV	SOIL
BO18T5 MS	A2-01-095-01B	P & SV	SOIL
BO18T5 MSD	A2-01-095-01C	P & SV	SOIL
B018T5	A2-01-095-01E	V	SOIL
BO18T5 MS	A2-01-095-01F	V	SOIL
BO18T5 MSD	A2-01-095-01G	V	SOIL

3.0 COMMENTS:

3.1 SHIPPING AND DOCUMENTATION :

All samples were received unbroken and properly documented.

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge outside of the CLP SOW holding times. All of the other QC results were within limits specified by the EPA CLP SOW.

TUNES :

All of the BFB tunes are injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. Samples were received on 1/21/92. However, since there was no activity report submitted until 1/23/92, the VTSR used was 1/23/92. See ROD# 92-00043. All of the other QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 2/10/92 and analyzed in accordance with the EPA CLP SOW.

During the sequence the computer program was interrupted causing it to stop collecting data from the data systems' storage box (interface box). This interface box can hold only a limited number of sample results after which it begins to overwrite previously stored files. Because of this the data files for the EVAL B standard analyzed at 5:57 on 2/11/92 (B21030 and A21030) and the data file for one sample injection (B21029 and A21029) analyzed at 5:17 on 2/11/92 were over written. The data for the injection made at 5:17 (B21029) was overwritten in the interface box by the injection made at 6:38. The data for the EVAL B injection made at 5:57 (B21030) was overwritten in the interface box by the injection made at 7:18. The EVAL B standard and the sample were set up and re-injected later in the sequence.

The sequence was interrupted after the injection made at 7:18 on 2/11/92 to determine what samples needed to be re-injected. Since the EVAL B had been overwritten, the injections that were made after IND A (B21024) and up to the injection made at 7:18 on 2/11/92 were re-injected. The sequence was restarted with the injection of IND A at 11:04 and IND B at 11:44 on 2/11/92. IND A and IND B were injected to assure that the system still met the Protocol criteria. EVAL B was then injected to resume the sequence.

IND A and IND B were injected consecutively in the sequence at 16:24 and 17:04 on 2/12/92. IND A (B21075) was used for quantitation. The IND B on the confirmation column had a calibration factor for Aldrin above the allowable 20% difference. There was some interference within the injection that co-eluted with Aldrin on the confirmation column but not on the primary column. Therefore, the calibration was still maintained. This standard is not used for quantitation.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the CLP SOW holding times. The MS and MSD samples had spike recoveries above the QC limit for gamma-BHC, Dieldrin, 4,4'-DDT and Heptachlor (MS only). The spiking solution was verified to have been correctly prepared. Since the QC limits are advisory, no further action was taken.

All of the other QC results were with the limits specified by the EPA CLP SOW.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth

CLP Program Manager

Dennis D. Wells

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018T5 Contract: WHC ab Name: TMA/ARLI

ab Code: TMALA Case No.: 01095 SAS No.: NA SDG No.: NA

Lab Sample ID: A201095-01E atrix: (soil/water) SOIL

ample wt/vol: 5.0 (g/mL) G Lab File ID: 20205R10

Date Received: 01/23/92 evel: (low/med) LOW___

Date Analyzed: 02/05/92 Moisture: not dec. ____7

Dilution Factor: 1.0 olumn: (pack/cap) PACK_

CONCENTRATION UNITS:

COMPOUND CAS NO. (ug/L or ug/Kg) UG/KG

CAD NO.	(19, 2 01 19,		*
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
	Chloroethane	11	U
	Methylene Chloride	17	В
	Acetone	8	BJ
75-15-0	Carbon Disulfide	5	U
	1,1-Dichloroethene	5	U
	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	11	U
	1,1,1-Trichloroethane	5	U
	Carbon Tetrachloride	5	U
	Vinyl Acetate	11	U
	Bromodichloromethane	5	U
	1,2-Dichloropropane	5	U
	cis-1,3-Dichloropropene	5	U
	Trichloroethene	5	U
	Dibromochloromethane	5	U
	1,1,2-Trichloroethane	5	U
	Benzene	2	J
10061-02-6-	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethyl vinyl ether	11	U
75-25-2	Bromoform	5	U
	4-Methyl-2-Pentanone	11	U
	2-Hexanone	11	U
	Tetrachloroethene	5	U
	1,1,2,2-Tetrachloroethane	5	U
	Toluene	5	U
	Chlorobenzene	5	U
	Ethylbenzene	5	U
	Styrene	5	U
1330-20-7	Xylene (Total)	5	U
2000 20 .			

9713506.0797

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

00006 EPA SAMPLE NO.

B018T5	
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ab Name: TMA/ARLI	Contract: WHC
ab Code: TMALA Case No.: 01095	SAS No.: NA SDG No.: NA
Matrix: (soil/water) SOIL	Lab Sample ID: A201095-01E
Sample wt/vol: 5.0 (g/mL) G	Lab File ID: 20205R10
Level: (low/med) LOW	Date Received: 01/23/92
Moisture: not dec7	Date Analyzed: 02/05/92
Column (pack/cap) PACK	Dilution Factor: 1.0
Number TICs found: 0	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG
CAS NUMBER COMPOUND NA	AME RT EST. CONC. O

00007 ALH

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018T5 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01095 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201095-01A Sample wt/vol: 30.1 (g/mL) G Lab File ID: Level: (low/med) LOW Date Received: 01/23/92 % Moisture: not dec. __ dec. __ Date Extracted: 01/31/92 Date Analyzed: 02/12/92 Extraction: (SepF/Cont/Sonc) SONC GPC Cleanup: (Y/N) N pH: 10.2 Dilution Factor: 1.00 CONCENTRATION UNITS: CAS NO. COMPOUND 0 (ug/L or ug/Kg) UG/KG 8.6 U 319-84-6-----alpha-BHC 319-85-7----beta-BHC 8.6 U 319-86-8-----delta-BHC 8.6 U 8.6 U 58-89-9----gamma-BHC (Lindane) 76-44-8-----Heptachlor 8.6 U 309-00-2-----Aldrin 8.6 U 1024-57-3-----Heptachlor epoxide 8.6 U 959-98-8-----Endosulfan I 8.6 U 60-57-1-----Dieldrin 17 U 72-55-9-----4,4'-DDE 17 U 72-20-8-----Endrin 17 U 33213-65-9----Endosulfan II 17 U U 72-54-8-----4,4'-DDD 17 1031-07-8-----Endosulfan sulfate U 17 50-29-3-----4,4'-DDT 17 U 72-43-5-----Methoxychlor 86 U 53494-70-5----Endrin ketone 17 U 5103-71-9-----alpha-Chlordane U 86 5103-74-2----gamma-Chlordane 86 U 8001-35-2----Toxaphene 170 U U 12674-11-2----Aroclor-1016 86 11104-28-2----Aroclor-1221 86 U U 11141-16-5----Aroclor-1232 86 U 53469-21-9-----Aroclor-1242 86 12672-29-6-----Aroclor-1248 86 U U 170 11097-69-1----Aroclor-1254 11096-82-5----Aroclor-1260 U 170

9713506.0799

1

1B SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018T5 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01095 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201095-01A Lab File ID: Sample wt/vol: 30.3 (g/mL) G 20204N10 Date Received: 01/23/92 Level: (low/med) LOW___ % Moisture: not dec. _____ dec. ____ Date Extracted: 02/03/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/04/92 GPC Cleanup: (Y/N) N pH: 10.2 Dilution Factor: 1.00 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG COMPOUND CAS NO. 0 108-95-2----Phenol 350 U 111-44-4-----bis(2-Chloroethyl)Ether U 350 95-57-8----2-Chlorophenol 350 U 541-73-1----1,3-Dichlorobenzene 350 U 106-46-7----1,4-Dichlorobenzene 350 U 100-51-6-----Benzyl Alcohol 350 U U 95-50-1----1,2-Dichlorobenzene 350 U 95-48-7----2-Methylphenol 350 108-60-1-----bis(2-Chloroisopropyl)Ether U 350 106-44-5----4-Methylphenol 350 U 621-64-7----N-Nitroso-Di-n-Propylamine 350 U U 67-72-1----Hexachloroethane 350 98-95-3----Nitrobenzene U 350 U 78-59-1-----Isophorone 350 88-75-5----2-Nitrophenol 350 U 105-67-9----2,4-Dimethylphenol U 350 65-85-0-----Benzoic Acid 1700 U U 111-91-1-----bis(2-Chloroethoxy) methane 350 U 120-83-2----2,4-Dichlorophenol_ 350 120-82-1----1,2,4-Trichlorobenzene 350 U U 91-20-3----Naphthalene 350 106-47-8----4-Chloroaniline 350 U 87-68-3-----Hexachlorobutadiene 350 U U 59-50-7----4-Chloro-3-methylphenol 350

91-57-6----2-Methylnaphthalene

88-06-2----2,4,6-Trichlorophenol_

95-95-4----2,4,5-Trichlorophenol

91-58-7----2-Chloronaphthalene

88-74-4----2-Nitroaniline

208-96-8-----Acenaphthylene

77-47-4-----Hexachlorocyclopentadiene

131-11-3-----Dimethyl Phthalate

U

U

U

U

U

U

U

U

350

350

350

350

350

350

1700

1700

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 01095 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201095-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20204N10

Level: (low/med) LOW Date Received: 01/23/92

% Moisture: not dec. ___ dec. ___ Date Extracted: 02/03/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/04/92

GPC Cleanup: (Y/N) N pH: 10.2 Dilution Factor: 1.00

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG

99-09-2	3-Nitroaniline	1700	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	1700	U
	4-Nitrophenol	1700	U
	Dibenzofuran	350	U
	2,4-Dinitrotoluene	350	U
	2,6-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
	4-Chlorophenyl-phenylether	350	U
	Fluorene	350	U
	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
	Hexachlorobenzene	350	U
	Pentachlorophenol	1700	U
	Phenanthrene	350	U
	Anthracene	350	U
84-74-2	Di-n-Butylphthalate	230	BJ
	Fluoranthene	350	U
129-00-0		350	U
85-68-7	Butylbenzylphthalate	350	U
	3,3'-Dichlorobenzidine	700	U
56-55-3	Benzo(a) anthracene	350	U
	bis(2-Ethylhexyl)Phthalate	350	U
218-01-9	Chrysene	350	U
	Di-n-octyl Phthalate	350	U
	Benzo(b) fluoranthene	350	U
207-08-9	Benzo(k) fluoranthene	350	U
	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)Pyrene	350	U
53-70-3	Dibenz(a,h)Anthracene	350	U
	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018T5

Lab Name: TMA/ARLI Contract: WHC

Lab Code: TMALA Case No.: 01095 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201095-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 20204N10

Level: (low/med) LOW Date Received: 01/23/92

% Moisture: not dec. ____ dec. ___ Date Extracted: 02/03/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/04/92

GPC Cleanup: (Y/N) N pH: 10.2 Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

Number TICs found: 15

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	2.22	350	J
2.	UNKNOWN ALCOHOL	2.45	2300	BJ
3.	UNKNOWN ALKANE	2.58	250	BJ
4.	UNKNOWN ALCOHOL	2.88	32000	BJ
5.	UNKNOWN ALKANE	3.07	250	BJ
6.	UNKNOWN ALKANE	3.18	140	BJ
7.	UNKNOWN HYDROCARBON	4.02	350	J
8.	UNKNOWN HYDROCARBON	4.32	2200	J
9.	UNKNOWN HYDROCARBON	6.87	140	J
10.	UNKNOWN KETONE	7.20	210	J
11.	UNKNOWN CARBOXYLIC ACID ESTE	28.47	27000	BJ
12.	UNKNOWN POLYAROMATIC HYDROCA	35.89	210	J
13.	UNKNOWN HYDROCARBON	37.02	210	J
14.	UNKNOWN HYDROCARBON	38.37	210	J
15.	UNKNOWN HYDROCARBON	39.21	140	J

WESTINGHOUSE HANFORD COMPANY

Results of Analyses For:

GENERAL CHEMISTRY
CASE NO. 01-095
(TMA/ARLI Work Order # A2-01-095)

ORGANICS
CASE NO. 01-095
(TMA/ARLI Work Order # A2-01-095)

TCLP FULL ANALYSIS
CASE NO. 01-095
(TMA/ARLI Work Order # A2-01-095)

General Chemistry, Organics and TCLP Full Analysis results are presented for the following WHC SOIL samples(s):

B018T5 B018T3 B018T4 B018T6 B018T7 B018T8

Norcal Work Order # N2-01-180

Thermo Analytical Inc. 160 Taylor Street Monrovia, Ca. 91016 818-357-3247

omments:

Westinghouse Hanford Company			SAMPLE ANALYSIS REQUEST
		PART I: FIELD	SECTION
Collector	F.W. Grustafson		Date Sampled 01/15/92 Time hours
	tact Mike Stankeric	ch	Telephone (509) 376-2493
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested He thod
BOISTS	2-1000ml 1-120ml 4-25cml 1-60ml	Soil	2470 2 250 ml
BO18T3	1-250m1	Soil	Gyanide 9010 250 m/
B01874	1	1	VOA 8240 120 m/
B01876			Semi-VOA 8270)
B018T7	1	1	ACB3/Resticides BOBO (1000 ml
1301878	1-250m1	5011	Anions (IC) EAR 300.0
			Carbon'4 LABSOP GOMI
			Strontium-90 LABSOP
•			U-835
			U-238/239
			R-239/240
			Gross Alpha / Howmt
			Gross Beta
			Gampa Spec
			BM-241 LAB 30R)
			TCLP 1311 250 ml
			NOTE: Sample #15 BOIRTS, BOIRT4
			BOISTLE BOISTT BOISTS to be
			analyzed for TCLP (Method 1311)
Field Informat	tion**		only. (1-250 ml jars)
	•		
Special Handli	ing and/or Storage		
Possible Samp	ole Hazards		*** ·
-			•
		PART II: LABORATO	DRY SECTION
Received by _	Hermit Blum	Title Sam	ple Control Supervisor Date 1-21-92
	ired		

^{*}Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

TMA/ARLI
Thermo Analytical Inc.

	1/92 CO HP-210								
	Nos. 710289		519			407726		02628	
	oration Factor								
Sample	Location	HP-210 CPM	HP-210 Pactor	HP-210 DPM	AC3-7 CPN	AC-3-7 Pactor	AC3-7 DPM	Spillage or Breakage?	
Background		33,0			0.0				
Consistency			0.2874		5/20	0.1882			
Smears:		28.0			1.0			rone	
Reported:	WHC	6 San	eles, da	LA 450	palg				
				/					
				/					

TMA/ARLI		
PROCESSING	EPA/CLP	SAMPLE

SCP-6-1

Rev	. No	. 0:

Rev. Date: 4/1/91

rage	NO.	

FIGURE 1

DOCUMENT CONTROL #

CIRCLE THE APPROPIATE RESPONSE

0 Container Condition

0 Custody Seal:

ice chest

present absent Intact Phot Intact

intact/pot intact

samples

present/absent Intact/not intact

present Absent

CASE NUMBER #2 01 - 095

0 Chain-of-Custody

Sample Tags 0 Sample Tag Numbers

present/absent Tisted not listed on chain of custody

AIRBILL NUMBER 14/4548332

0 SMO Forms

present/absent

DATE	TIME	CHAIN-OF-	SMO	CORRESP	ONDING	DOES INFORMATION OF	REMARKS:
	RECEIVED	CUSTODY RECORD NUMBER	SAMPLE NUMBERS	SAMPLE TAG NUMBERS	ASSIGNED LAB NUMBERS	CUSTODY RECORDS, TRAFFIC REPORTS, AND SAMPLE TAGS AGREE?	CONDITION OF SAMPLE SHIPMENT, ETC.

Apr

5102550438

ROD-92-00043 RECORD OF DISPOSITION DATE: 1/23/92 LASORATORY: TMA 100-DR-1 91-093 SAMPLE IDENTIFICATION NUMBERS DISPOSITION OF SAMPLES CANCELLED (REASON) DAMAGED SAMPLE CONTAINER. ANALYSIS CANCELLED BROKEN GLASS CONTAMINATING SAMPLE. ANALYSIS CANCELLED OTHER TOTAL ACTIVITY REPORTS WELL NOT SENT WITH SAMPLES TO TMA. TOTAL ACTIVITY REPORT Supplied by MIKE STANKOVICH APPROVED TECHNICAL REPRESENTATIVE DATE

ROJECT 91-93/100-DR-1		RECORD OF DI	SPOSITION		ROD-92-0	0051
DATE: 2/5/92		LAB	ORATORY:	TMA		
SAMPLE IDENTIFICATION N	UMBERS					
B018T3 B018T4 B018T6 B018T7	B018T8 B018T9 B018T5					
DISPOSITION OF SAMPLE					_	
DAMAGED SAMPLE	CONTAINER. ANALY	SIS CANCELLED				RECE, FEB 1 8
BROKEN GLASS CO	NTAMINATING SAMP	LE. ANALYSIS C	ANCELLED.			18 182
EACH.					IS REQUESTED FOR WITH ANALYSIS PE	
APPROVED Mancy U Se	suin 7-	4-92		111/	2/ 6	>

Post-It " brand fax transmittal memo 7671 # of pages >

The Lichan Co.

Co.

Dept. Phone #

Fex #

Fex #

800000

Thermo Analytical Inc.

CHAIN-OF-CUSTODY NON-CONFORMANCE NOTIFICATION FORM

WESTINGHOUSE HANFORD COMPANY P.O.#: MBH-SVV-069262

Serial Number:17	Date:
Samples Received: 1-20-92	Fax #:11
Project/Location: 41-93 100 DR-1	
DESCRIPTION:	
Samples BOIRTS, BOIRTS	eceived today.
Sample bottles c	did not specifiq the
- Critary S. Fegine	
RESOLUTION:	

Yes [

Response Required

No[]

From Your Name: Pease Print	4548332* 1-23-73	imper (Very Important, 1/2 Recipier		PIENT'S COPY	Phane harder our, "day
SAMPLE CONTROL Company 1 "4 4 /NDFCAL Street Address	₹10π3	235-2633 Department/Floor No Company	MPLE CONTROL M A / ARLI Accress NW Carror Dawn to P 0	,	Department Fixor
2030 WRIGHT AVE City RICHMOND YOUR INTERNAL BILLING REFERENCE INFORMA		# 0.4 MO	NROVIA IF HOLD FOR PICK-UP.	State ZIP	91016
2310 - 64C	edit i Acct No 3 Ba 3rd Perly Fedit i Acct No	元文学	Address Cay		Required
SERVICES (Check only one box) Priority Overnight Standard Overnight Standard Overnight 11 VOUN 51 NOVACHING	DELIVERY AND SPECIAL HANDLING (Check services required) 1 MOLD FOR FICK-UP IT on the m 2 EDELIVER WEEKDAY DELIVER SATURDAY ALMO CHECK	1 25	Cash Received	Ong To Dat Chig To Hoad	Federal Express U Base Charges Declared Value Char
6	4 DAMESTOUS 8000S (Law Comp.)	TOWN TOWN TOWN	Cey Pacewed By X	State Zo	Other 1 Other 2 Total Charges
Sconored Two-Day Soverment Overnight Source is given assets Source is given assets Source is given assets Source is given Sour	8 SATHBOAY PICK-UP	DM SHIPMENT (Chargeable Weight)	Date/Time Received	FedEx Employee Number	REVISION DATE 6/91 PART #137204 FXEM 9 FORMAT #089

GENERAL CHEMISTRY RESULTS

CASE NO. 01-095

Soil Sample #:

B018T5

CASE NARRATIVE

No problems were encountered during sample analysis. All QC results were acceptable.

Dennys D. Wells, Project Manager

leceived: 01/24/92

8 Blank Summary-TCLP Pest. 8 Blank Summary-TCLP Herb.

8 Blank Summary-TCLP SEMIVOA

8 Blank Summary-TCLP VOA

REPORT

Work Order # A2-01-095 Work Not Complete

05/13/92 15:27:42 REPORT Westinghouse Hanford Company PREPARED Thermo Analytical, Inc. TO 2355 Stevens Dr. BY 160 Taylor Street Richland, WA. 99352 Monrovia, CA 91016 MO-346/200 West/T6-08 CERTIFIED ATTEN Jeanette Duncan ATTEN Ms. Carole Harris PHONE 818-357-3247 CONTACT DOW SAMPLES 9 CLIENT WHC COMPANY Westinghouse Hanford Company This report is for the sole and exclusive use of the client to whom it is addressed and represents only those samples ACILITY _ herein described. Samples not destroyed in testing are retained a maximum of 30 days unless otherwise requested. WORK ID 91-93 100-DR-1 TAKEN By Westinghouse Staff TRANS Federal Express TYPE Soil P.O. # N2-01-180-SU-AR INVOICE under separate cover TEST CODES and MANES used on this workorder SAMPLE IDENTIFICATION 1 B018T5 AS SED As/Se Digestion TCP3 TCLP Pesticides Form 3 BLKSUM Method Blank Summary 1 B018T5 MS TCP3D ICLP Pesticides From 3D 1 B018T5 MSD BNCLPS CLP Semivol. Soils - WH016 ICS1 ICLP Semi-Volatiles Form 1 1 B018T5 Duplicate CL S Chloride in Solids TCS3 TCLP Semi-Volatiles Form 3 F \$ Fluoride in Solids TCS3D TCLP Semivolatiles Form 3D 11 B018T5 HG P Hg Digestion ICV1 ICLP Volatiles Form 1 1 8018T5 MS IC AN Anions Extraction Solids .1 B018T5 MSD TCV3 TCLP Volatiles form 3 MOIST Moisture 1 801815 TCV3D TCLP Volatiles Form 3D 2 B018T3 MPREPW Netals Prep. - Liquid VOCLPS CLP Vol. Org. Soils - WHO14 NO2 S Nitrite (Soilds) .3 B018T4 WCCLPS Anions in Solids - WH232 NO3 S Nitrate (solids) WCQCD Quality Control Summary 4 801816 PECLPS CLP Pest\PCBs Soil - WH015 WCQCS Quality Control Summary 4 B018T6 MS 4 B018T6 Duplicate PH SOL pH of Solids PO4 S Phosphate in Solids 15 B018T7 5 B018T7 Duplicate \$04 S Sulfate (in Solids) TCH1 TCLP Herbicides Form 1 6 B018T8 TCH3 ICLP Herbicides Form 3 6 B018T8 MS TCH3D TCLP Herbicides Form 3D 7 Blank TCLPX OLD CODE - DO NOT USE 7 TBLK0205 7 0206TCLP Blank TCLPZ OLD CODE - DO NOT USE TCM1 TCLP Metals Form 1 7 TBLK0206 TCM2 TCLP Metals Form 2 8 Blank Summary-TCLP Metals

TCM3 TCLP Metals Form 3

TCM5 TCLP Metals Form 5

TCM6 TCLP Metals Form 6 TCP1 TCLP Pesticides Form 1

000012

9713506, 11813

REPORT

.eceived: 01/24/92

05/13/92 15:27:42

SAMPLE IDENTIFICATION

8 Blank Summary-TCLP VOAZ

9 Calibration Data

Work Order # A2-01-095 Work met Complete

9713506.0814

REPORT Work Order # A2-01-095

Results by Sample eceived: 01/24/92

FRACTION 01A TEST CODE VCCLPS NAME Anions in Solids - WH232 AMPLE ID BO18T5 Date & Time Collected 01/15/92 Category ____

ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Fluoride	300	2.3	mg/Kg	1.0
Chloride	300	8.6	mg/Kg	2.0
Nitrite	300	<1	mg/Kg	1.0
Nitrate	300	5.4	mg/Kg	2.0
Sulfate	300	33	mg/Kg	10.0
Phosphate	300	<4	mg/Kg	4.0

FORM I

000041 REPORT Work Order # A2-01-095

Received: 01/24/92

SAMPLE ID BO18T3

Results by Sample

FRACTION 02A TEST CODE TCV1 NAME TCLP Volatiles Form 1 Date & Time Collected 01/15/92 Category

TCLP VOLATILE ORGANICS

Sample Matrix (soil/water): LEACHATE

Lab File ID: 20205R13

Leachate vol analyzed (mL): 1.0 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted:

TCLP Extraction Date: 02/02/92

Date Analyzed: 02/05/92

Dilution Factor: _____1.00

Instrument ID: BULL

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Carbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Nethyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

000045

THA Inc.

REPORT

Work Order # A2-01-095

leceived: 01/24/92

Results by Sample

SAMPLE ID BO18T4

FRACTION 03A TEST CODE TCV1 NAME TCLP Volatiles form 1 Date & Time Collected 01/15/92 Category ____

TCLP VOLATILE ORGANICS

Sample Matrix (soil/water): LEACHATE Leachate vol analyzed (mL): 1.0 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted:

Lab File ID: 20205814

TCLP Extraction Date: 02/02/92

Date Analyzed: 02/05/92 Dilution Factor: 1.00

Instrument ID: BULL

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Carbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Methyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

THA Inc.

000049 REPORT Work Order # A2-01-095

Received: 01/24/92

SAMPLE ID BO18T5

Results by Sample

FRACTION OIN TEST CODE TCV1 NAME TCLP Volatiles Form 1

Date & Time Collected 01/15/92 Category ____

TCLP VOLATILE ORGANICS

Instrument ID: BULL

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Carbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Methyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

d8-Toluene 93

FORM I

THA Inc.

REPORT Work Order # A2-01-095

Results by Sample

WPLE ID BO18T6

:ceived: 01/24/92

FRACTION 04A TEST CODE TCV1 NAME TCLP Volatiles Form 1

Date & Time Collected 01/15/92 Category

TCLP VOLATILE ORGANICS

Sample Matrix (soil/water): LEACHATE Lab File 10: 202/02/92

TCLP Extraction Date: 02/02/92

Leachate vol analyzed (mL): 1.0 TCLP Extraction Date: 02/02

Date Received: 01/23/92 Date Leachate Extracted:

Date Analyzed: 02/05/92 Instrument ID: BULL

Dilution Factor: 1.00

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Carbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Methyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

REPORT

Work Order # A2-01-095

Results by Sample

SAMPLE ID BO18T7

Received: 01/24/92

FRACTION 05A TEST CODE TCV1 NAME TCLP Volatiles Form 1 Date & Time Collected 01/15/92 Category ____

TCLP VOLATILE ORGANICS

Sample Matrix (soil/water): LEACHATE

Lab File ID: 20206804

Leachate vol analyzed (mL): 1.0

TCLP Extraction Date: 02/02/92 Date Received: 01/23/92 Date Leachate Extracted:

Date Analyzed: 02/06/92 Instrument ID: BULL

Dilution Factor: 1.00

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Carbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Methyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

THA Inc.

REPORT

Work Order # A2-01-095

Describes !

Results by Sample

SAMPLE ID BO18T8

Received: 01/24/92

FRACTION <u>06A</u> TEST CODE <u>TCV1</u> NAME <u>TCLP Volatiles Form 1</u>
Date & Time Collected <u>01/15/92</u> Category

TCLP VOLATILE ORGANICS

Sample Matrix (soil/water): LEACHATE Lab File ID: 20206805
Leachate vol analyzed (mL): 1.0 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted:

Date Analyzed: 02/06/92 Dilution Factor: 1.00

Instrument ID: BULL

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
71-43-2	Benzene	ND	0.025
56-23-5	Cerbon Tetrachloride	ND	0.025
108-90-7	Chlorobenzene	ND	0.025
67-66-3	Chloroform	ND	0.025
107-06-2	1,2-Dichloroethane	ND	0.025
75-35-4	1,1-Dichloroethylene	ND	0.025
78-93-3	Methyl Ethyl Ketone	ND	0.050
127-18-4	Tetrachloroethylene	ND	0.025
79-01-6	Trichloroethylene	ND	0.025
75-01-4	Vinyl Chloride	ND	0.050

% RECOVERY SURROGATE COMPOUND

THA Inc.

REPORT

Work Order # A2-01-095

Results by Sample

AMPLE ID BO18T3

eceived: 01/24/92

FRACTION DZA TEST CODE TCS1 NAME TCLP Semi-Volatiles Form 1 Date & Time Collected 01/15/92 Category ____

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE

Lab File ID: 20207N06

Leachate vol (mL): 250

TCLP Extraction Date: 02/02/92 Date Received: 01/23/92 Date Leachate Extracted: 02/06/92

Conc. Extract Vol.(mL): 1.0 Injection Volume (uL): 1.0

Date Analyzed: 02/07/92

Instrument ID: 4500N

Dilution Factor: _____1.00

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
1319-77-3	Cresol (Total)	ND	0.02
87-86-5	Pentachlorophenol	ND	0.1
95-95-4	2,4,5-Trichlorophenol	ND	0.02
88-06-2	2,4,6-Trichtorophenol	ND	0.02
106-46-7	1,4-Dichlorobenzene	ND	0.02
121-14-2	2,4-Dinitrotoluene	ND	0.02
118-74-1	Hexachlorobenzene	ND	0.02
87-68-3	Hexachlorobutadiene	ND	0.02
67-72-1	Hexachloroethane	ND	0.02
98-95-3	Nitrobenzene	ND	0.02
110-86-1	Pyridine	ND	0.02

% RECOVERY SURROGATE COMPOUND

2-Fluorophenol 80 Nitrobenzene-d5

THA Inc.

REPORT

Work Order # A2-01-095

:eceived: 01/24/92

Results by Sample

SAMPLE ID BO18T4

FRACTION 03A TEST CODE TCS1 NAME TCLP Semi-Volatiles Form 1 Date & Time Collected 01/15/92 Category

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92

Date Leachate Extracted: 02/06/92

Conc. Extract Vol.(mL): 1.0

Date Analyzed: 02/07/92

Injection Volume (uL): 1.0

Dilution Factor: _____1.00

Instrument ID: 4500N

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
1319-77-3	Cresol (Total)	ND	0.02
87-86-5	Pentachlorophenol	ND	0.1
95-95-4	2,4,5-Trichlorophenol	ND	0.02
88-06-2	2,4,6-Trichlorophenol	ND	0.02
106-46-7	1,4-Dichlorobenzene	ND	0.02
121-14-2	2,4-Dinitrotoluene	ND	0.02
118-74-1	Hexachlorobenzene	ND	0.02
87-68-3	Hexachlorobutadiene	ND	0.02
67-72-1	Hexachloroethane	ND	0.02
98-95-3	Nitrobenzene	ND	0.02
110-86-1	Pyridine	ND	0.02

% RECOVERY SURROGATE COMPOUND

2-Fluorophenol 76
Nitrobenzene-d5 83

97 | 3506.0823

THA Inc.

REPORT

Work Order # A2-01-095

Results by Sample

SAMPLE ID BO18T5

Received: 01/24/92

FRACTION OIN TEST CODE ICS1 NAME ICLP Semi-Volatiles Form 1

Date & Time Collected 01/15/92

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE

Lab File ID: 20207N05

Leachate vol (mL): 250 Date Received: 01/23/92 TCLP Extraction Date: 02/02/92

Conc. Extract Vol.(mL): 1.0

Date Leachate Extracted: 02/06/92

Injection Volume (uL): 1.0

Date Analyzed: 02/07/92

Instrument ID: 4500M

Dilution Factor: _____1.00

CAS No	COMPOUND	RESULT (mg/L)	PQL (mg/L)
1319-77-	Cresol (Total)	ND	0.02
87-86-	· Pentachlorophenol	ND	0.1
95-95-	· 2,4,5-Trichlorophenol	ND	0.02
88-06-	. 2,4,6-Trichlorophenol	ND	0.02
106-46-	. 1,4-Dichlorobenzene	ND	0.02
121-14-2	· 2,4-Dinitrotoluene	ND	0.02
118-74-	· Hexachlorobenzene	ND	0.02
87-68-	- Hexachlorobutadiene	ND	0.02
67-72-	· Hexachloroethane	ND	0.02
98-95-	· Nitrobenzene	ND	0.02
110-86-	Pyridine	ND	0.02

% RECOVERY SURROGATE COMPOUND

2-Fluorophenol

67

Nitrobenzene-d5

REPORT Work Order # A2-01-095

:eceived: 01/24/92

Results by Sample

FRACTION 04A TEST CODE TCS1 NAME TCLP Semi-Volatiles Form 1 AMPLE ID BO18T6 Date & Time Collected 01/15/92 Category ____

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE Lab File ID: 20207N08 Leachate vol (mL): 250

Date Received: 01/23/92

TCLP Extraction Date: 02/02/92

Date Leachate Extracted: 02/06/92 Conc. Extract Vol.(mL): 1.0 Date Analyzed: 02/07/92

Injection Volume (uL): 1.0 Dilution Factor: _____1.00

Instrument ID: 4500M

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
1319-77-3	Cresol (Total)	ND	0.02
87-86-5	Pentachlorophenol	ND	0.1
95-95-4	2,4,5-Trichlorophenol	ND	0.02
88-06-2	2,4,6-Trichlorophenol	ND	0.02
106-46-7	1,4-Dichlorobenzene	ND	0.02
121-14-2	2,4-Dinitrotoluene	ND	0.02
118-74-1	Hexachlorobenzene	ND	0.02
87-68-3	Hexachlorobutadiene	ND	0.02
67-72-1	Nexachloroethane	ND	0.02
98-95-3	Nitrobenzene	ND	0.02
110-86-1	Pyridine	ND	0.02

% RECOVERY SURROGATE COMPOUND

2-Fluorophenol ___ Nitrobenzene-d5

leceived: 01/24/92

SAMPLE ID BO18T7

Results by Sample

FRACTION <u>05A</u> TEST CODE <u>TC\$1</u> NAME <u>TCLP \$emi-Volatiles Form 1</u>

Date & Time Collected <u>01/15/92</u> Category

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92

Conc. Extract Vol.(mL): 1.0

Lab File ID: 20207N11

TCLP Extraction Date: 02/02/92

Date Leachate Extracted: 02/06/92

Date Analyzed: 02/07/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00
Instrument ID: 4500N

RESULT POL CAS No. COMPOUND (mg/L) (mg/L) 1319-77-3 Cresol (Total) 0.02 ND 87-86-5 Pentachlorophenol ND 0.1 95-95-4 2,4,5-Trichlorophenol ND 0.02 0.02 88-06-2 2,4,6-Trichlorophenol ND 106-46-7 1,4-Dichlorobenzene ND 0.02 0.02 121-14-2 2,4-Dinitrotoluene ND 118-74-1 Hexachlorobenzene ND 0.02 0.02 87-68-3 Hexachlorobutadiene ND 67-72-1 **Hexachioroethane** ND 0.02 98-95-3 Nitrobenzene 0.02

% RECOVERY SURROGATE COMPOUND

110-86-1

2-Fluorophenol 77
Nitrobenzene-d5 92

Pyridine

0.02

THA Inc.

REPORT

Work Order # A2-01-095

Results by Sample

AMPLE ID BO18T8

'eceived: 01/24/92

FRACTION 06A TEST CODE TCS1 NAME TCLP Semi-Volatiles Form 1 Date & Time Collected 01/15/92 Category

TCLP SEMI-VOLATILE ORGANICS

Sample Matrix: LEACHATE

Lab File ID: 20207N12

Leachate vol (mL): 250

chate vol (mL): 250 TCLP Extraction Date: 02/02/92
Date Received: 01/23/92 Date Leachate Extracted: 02/06/92

Conc. Extract Vol.(mL): 1.0

Date Analyzed: 02/07/92

Injection Volume (uL): 1.0

Dilution Factor: _____1.00

Instrument ID: 4500N

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
1319-77-3	Cresol (Total)	ND	0.02
87-86-5	Pentachlorophenol	ND	0.1
95-95-4	2,4,5-Trichlorophenol	ND	0.02
88-06-2	2,4,6-Trichlorophenol	ND	0.02
106-46-7	1,4-Dichlorobenzene	ND	0.02
121-14-2	2,4-Dinitrotoluene	ND	0.02
118-74-1	Hexachlorobenzene	ND	0.02
87-68-3	Hexachlorobutadiene	ND	0.02
67-72-1	Hexachloroethane	ND	0.02
98-95-3	Nitrobenzene	ND	0.02
110-86-1	Pyridine	ND	0.02

% RECOVERY SURROGATE COMPOUND

2-Fluorophenol 78 92 Nitrobenzene-d5

REPORT

000221 Work Order # A2-01-095

Received: 01/24/92

Results by Sample

SAMPLE ID <u>B018T3</u> FRACTION <u>02A</u> TEST CODE <u>TCP1</u> NAME <u>TCLP Pesticides Form 1</u>

Date & Time Collected <u>01/15/92</u> Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92
Conc. Extract Vol.(mL): 10
Injection Volume (uL): 1.0
Column ID:

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
57-74-9	Chlordane	ND	0.008
72-20-8	Endrin	ND	0.0008
76-44-8	Heptachlor	ND	0.0004
1024-57-3	Heptachlor Epoxide	ND	0.0004
58-89-9	Lindane	ND	0.0004
72-43-5	Methoxychlor	ND	0.004
8001-35-2	Toxaphene	ND	0.008

% RECOVERY SURROGATE COMPOUND

DBC _____90

THA Inc.

REPORT

000224

Received: 01/24/92

Results by Sample

MPLE ID B018T4	FRACTION OJA	TEST CODE TCP1	NAME TCLP Pesticides Form 1
	Date & Time Co	llected 01/15/92	Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92
Conc. Extract Vol.(mL): 10
Injection Volume (uL): 1.0
Column ID:

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
57-74-9	Chlordane	ND	0.008
72-20-8	Endrin	ND	0.0008
76-44-8	Heptachlor	ND	0.0004
1024-57-3	Neptachlor Epoxide	ND	0.0004
58-89-9	Lindane	ND	0.0004
72-43-5	Methoxychlor	ND	0.004
8001-35-2	Toxaphene	ND	0.008

% RECOVERY SURROGATE COMPOUND

DBC 99

THA Inc.

REPORT

Work Order # A2-01-095

Results by Sample

SAMPLE ID BO18T5

Received: 01/24/92

FRACTION <u>01H</u> TEST CODE <u>TCP1</u> NAME <u>TCLP Pesticides Form 1</u>
Date & Time Collected <u>01/15/92</u> Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE Lab File ID: A22611

Leachate vol (mL): 250 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/04/92

Conc. Extract Vol.(mL): 10 Date Analyzed: 02/26/92

Injection Volume (uL): 1.0 Dilution Factor: 1.0

Column ID:

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
57-74-9	Chlordane	ND	0.008
72-20-8	Endrin	ND	0.0008
76-44-8	Heptachlor	ND	0.0004
1024-57-3	Heptachlor Epoxide	. ND	0.0004
58-89-9	Lindane	ND	0.0004
72-43-5	Methoxychlor	ND	0.004
8001-35-2	Toxaphene	ND	0.008

% RECOVERY SURROGATE COMPOUND

THA Inc.

REPORT

Work Order # A2-01-095

Received: 01/24/92

SAMPLE ID BO18T6

Results by Sample

FRACTION <u>04A</u> TEST CODE <u>TCP1</u> NAME <u>TCLP Pesticides Form 1</u>
Date & Time Collected <u>01/15/92</u> Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92
Conc. Extract Vol.(mL): 10
Injection Volume (uL): 1.0
Column ID:

Lab File ID: A22614

TCLP Extraction Date: 02/02/92

Date Leachate Extracted: 02/04/92

Date Analyzed: 02/26/92

Dilution Factor: 1.0

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
57-74-9	Chlordane	ND	0.008
72-20-8	Endrin	ND	0.0008
76-44-8	Heptachlor	ND	0.0004
1024-57-3	Heptachlor Epoxide	ND	0.0004
58-89-9	Lindane	ND	0.0004
72-43-5	Nethoxychlor	ND	0.004
8001-35-2	Toxaphene	ND	0.008

% RECOVERY SURROGATE COMPOUND

DBC 92

TMA Inc.

leceived: 01/24/92

REPORT

Work Order # A2-01-095

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Results by Sample

SAMPLE ID <u>B01877</u> FRACTION <u>05A</u> TEST CODE <u>TCP1</u> NAME <u>TCLP Pesticides Form 1</u>

Date & Time Collected <u>01/15/92</u> Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92
Conc. Extract Vol.(mL): 10
Injection Volume (uL): 1.0
Column ID:

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
57-74-9	Chlordane	ND	0.008
72-20-8	Endrin	ND	0.0008
76-44-8	Heptachlor	ND	0.0004
1024-57-3	Heptachlor Epoxide	ND	0.0004
58-89-9	Lindane	ND	0.0004
72-43-5	Methoxychlor	ND	0.004
8001-35-2	Toxaphene	ND	0.008

% RECOVERY SURROGATE COMPOUND

DBC 92

TMA Inc.

Received: 01/24/92

REPORT

Work Order # A2-01-095

INA THE

Column ID:

Results by Sample

FRACTION <u>06A</u> TEST CODE <u>TCP1</u> NAME <u>TCLP Pesticides Form 1</u>

Date & Time Collected <u>01/15/92</u> Category

TCLP CHLORINATED PESTICIDES

Sample Matrix: LEACHATE
Leachate vol (mL): 250
Date Received: 01/23/92

Conc. Extract Vol.(mL): 10
Injection Volume (uL): 1.0

Lab File ID: A22618

TCLP Extraction Date: 02/02/92

Date Leachate Extracted: 02/04/92

Date Analyzed: 02/26/92

Dilution Factor: 1.0

PQL (mg/L)	RESULT (mg/L)	COMPOUND	CAS No.
0.008	ND	Chlordane	57-74-9
0.0008	ND	Endrin	72-20-8
0.0004	ND	Heptachior	76-44-8
0.0004	ND	Heptachlor Epoxide	1024-57-3
0.0004	ND	Lindane	58-89-9
0.004	ND	Methoxychlor	72-43-5
0.008	ND	Toxaphene	8001-35-2

% RECOVERY SURROGATE COMPOUND

DBC _____103

THA Inc.

REPORT Work Order # A2-01-095

Received: 01/24/92

SAMPLE ID BO18T3

Results by Sample

FRACTION OZA TEST CODE TCH1 NAME TCLP Merbicides Form 1 Date & Time Collected 01/15/92 Category

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE Lab File ID: HA21810

> Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Dete Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0 Date Analyzed: 02/18/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00

Column ID: PTE-5

CAS NO.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-0	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

DCAA ____15

THA Inc.

REPORT

Work Order # A2-01-095

eceived: 01/24/92

Results by Sample

FRACTION 03A TEST CODE TCH1 NAME TCLP Merbicides Form 1 AMPLE ID BO18T4 Date & Time Collected 01/15/92 Category

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE Lab File ID: HA21811

> Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0 Date Analyzed: 02/18/92

Dilution Factor: _____1.00 Injection Volume (uL): 1.0

Column ID: PTE-5

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-D	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

THA IDC.

PEPOPT

000303

eceived: 01/24/92

Results by Sample

IPLE ID 8018T5	FRACTION OTH	TEST CODE TENT	NAME ICLP Berbicides	Form 1
	Date & Time Co	lected 01/15/92	Category _	

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE Lab File ID: HA2189

Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0 Date Analyzed: 02/18/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00

Column ID: PTE-5

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-D	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

Inc. REPORT

Work Order # A2-01-095

Received: 01/24/92

Results by Sample

SAMPLE	ID	B018T6	FRACTION	04A	TEST	CODE	TC#1	NAME	TCLP Berbicides Fo	re 1
			Date & Ti	me C	ollected	01/	15/92		Category	

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE Lab File ID: HA21812

Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0 Date Analyzed: 02/18/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00

Column ID: PTE-5

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-0	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

REPORT Work Order # A

teceived: 01/24/92

AMPLE ID BO18T7

Results by Sample

FRACTION 05A TEST CODE TCH1 NAME TCLP Merbicides Form 1

Date & Time Collected 01/15/92

Category ____

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE

Lab File ID: HA21815

Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0

Date Analyzed: 02/18/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00

Column ID: PTE-5

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-0	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

REPORT

Work Order # A2-01-095

eceived: 01/24/92

Results by Sample

PLE ID 801878	FRACTION DEA	TEST CODE TENT	NAME TCLP Berbicides Form 1	
	Date & Time Co	llected 01/15/92	Category	

TCLP CHLORINATED HERBICIDES

Sample Matrix (soil/water): LEACHATE Lab File ID: HA21816

Leachate vol (mL): 200 TCLP Extraction Date: 02/02/92

Date Received: 01/23/92 Date Leachate Extracted: 02/12/92

Conc.Extract Vol.(mL): 2.0 Date Analyzed: 02/18/92

Injection Volume (uL): 1.0 Dilution Factor: 1.00

Column ID: PTE-5

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)
94-75-7	2,4-D	ND	0.094
93-72-1	2,4,5-TP	ND	0.010

% RECOVERY SURROGATE COMPOUND

REPORT

eceived: 01/24/92

AMPLE ID BO18T3

Results by Sample

FRACTION DZA	TEST CODE TCM1	NAME TCLP Metals Form 1
Date & Time Col	llected 01/15/92	Category

TCLP METALS

Sample Matrix: <u>LEACHATE</u>

Date Received: 01/23/92

TCLP Extraction Date: 02/02/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Araenic	0.007	0.001	F
7440-39-3	Barium	0.25	0.001	P
7440-43-9	Cadalus	MD	0.003	P
7440-47-3	Chronium	ND	0.007	P
7439-92-1	Lead	0.002	0.001	F
7439-97-6	Hercury	ND	0.0002	cv
7782-49-2	Selenium	ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Methods Used:

P = ICP A = Flame AA F = Furnace AA

000349

THA Inc.

REPORT Work Order # A2-01-095

Results by Sample

SAMPLE ID BO18T4

Received: 01/24/92

FRACTION DE TEST CODE TONT NAME TOLP Metals Form 1 Date & Time Collected 01/15/92

TCLP METALS

Date Received: 01/23/92

Sample Matrix: LEACHATE TCLP Extraction Date: 02/02/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Arsenic	0.004	0.001	F
7440-39-3	Barium	0.25	0.001	P
7440-43-9	Cadmium	ND	0.003	P
7440-47-3	Chromium	ND	0.007	P
7439-92-1	Lead	0.003	0.001	F
7439-97-6	Mercury	ND	0.0002	cv
7782-49-2	Selenium	ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Nethods Used:

P = ICP A = Flame AA F = Furnace AA

000350

eceived: 01/24/92

THA Inc. Results by Sample

REPORT Work Order # A2-01-095

AMPLE ID B018T5

FRACTION 010 TEST CODE TCH1 NAME TCLP Netals Form 1 Date & Time Collected 01/15/92 Category

TCLP METALS

Sample Matrix: <u>LEACHATE</u> TCLP Extraction Date: <u>02/02/92</u>

Date Received: 01/23/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Arsenic	0.005	0.001	F
7440-39-3	Barium	0.27	0.001	P
7440-43-9	Cadalus	ND	0.003	P
7440-47-3	Chromium	ND	0.007	P
7439-92-1	Lead	0.006	0.001	F
7439-97-6	Mercury	ND	0.0002	cv
7782-49-2	Selenium	ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Nethods Used:

P = ICP A = Flame AA F = Furnace AA

REPORT Work Order # A2-01-095

Results by Sample

AMPLE ID BO18T6

eceived: 01/24/92

FRACTION 04A TEST CODE TCH1 NAME TCLP Metals Form 1 Date & Time Collected 01/15/92

TCLP METALS

Sample Matrix: LEACHATE TCLP Extraction Date: 02/02/92

Date Received: 01/23/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Arsenic	ND	0.001	F
7440-39-3	Sarium	0.36	0.001	P
7440-43-9	Cadaium	ND	0.003	P
7440-47-3	Chronium	ND	0.007	P
7439-92-1	Lead	0.002	0.001	F
7439-97-6	Mercury	ND	0.0002	cv
7782-49-2	Selenium	ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Methods Used:

P = ICP A = Flame AA F = Furnace AA

REPORT Work Order # A2-01-095

Received: 01/24/92

SAMPLE ID BO18T7

Results by Sample

Date & Time Collected 01/15/92

FRACTION 05A TEST CODE ICH1 NAME TCLP Metals Form 1

Category ____

TCLP METALS

Sample Matrix: LEACHATE TCLP Extraction Date: 02/02/92 Date Received: 01/23/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Arsenic	ND	0.001	F
7440-39-3	Barium	0.07	0.001	P
7440-43-9	Cednium	ND	0.003	P
7440-47-3	Chromium	ND	0.007	Р
7439-92-1	Lead	0.001	0.001	F
7439-97-6	Hercury	ND	0.0002	cv
7782-49-2	Setenium	ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Methods Used:

P = ICP A = Flame AA F = Furnace AA

THA Inc.

REPORT

Results by Sample

AMPLE ID BO18T8

:eceived: 01/24/92

FRACTION 06A TEST CODE TCH1 NAME TCLP Metals Form 1 Date & Time Collected 01/15/92

TCLP METALS

Semple Matrix: LEACHATE TCLP Extraction Date: 02/02/92

Dete Received: 01/23/92

CAS No.	COMPOUND	RESULT (mg/L)	PQL (mg/L)	METHOD
7440-38-2	Arsenic	ND	0.001	F
7440-39-3	Barium	0.07	0.001	P
7440-43-9	Cedmium	ND	0.003	P
7440-47-3	Chromium	ND	0.007	P
7439-92-1	Lead	0.002	0.001	F
7439-97-6	Hercury	ND	0.0002	cv
7782-49-2	Selenium	. ND	0.002	F
7440-22-4	Silver	ND	0.003	P

Analytical Methods Used:

P = 1CP A = Flame AA F = Furnace AA

97135065 PINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

BØ18T5

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-01-180SAS No.:

SDG No.: B018T5

Matrix (soil/water): SOIL

Lab Sample ID: 01215-018

Level (low/med): LOW

Date Received: 01/24/92

% Solids:

92.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	Q	M
7429-90-5	Aluminum	4970.00		P
7440-36-0	Antimony	1.70;U	N	!P
7440-38-2	Arsenic	2.00 B		1F
7440-39-3	Barium	57.20		1P
7440-41-7	Beryllium	0.70 B		!P
7440-43-9	Cadmium	0.21¦U		!P
7440-70-2	Calcium	7740.001		!P
7440-47-3	Chromium	5.30		!P
7440-48-4	Cobalt	8.80 B		!P
7440-50-8	Copper	18.40		1P
7439-89-6	Iron	18600.00		!P
7439-92-1	Lead	4.20	*	F
7439-95-4	Magnesium	4230.00		1P
7439-96-5	Manganese	254.001		!P
7439-97-6	Mercury	0.09:0		CV
7440-02-0	Nickel	8.30		1P
7440-09-7	Potassium	929.00 B		IP
7782-49-2	Selenium	4.20 U	WN	F
7440-22-4	Silver	0.41 U		P
7440-23-5	Sodium	1390.00	1	:P
7440-28-0	Thallium	0.42 U		F
7440-62-2	Vanadium	37.30		1P
7440-66-6	Zinc	37.00		!P
	Cyanide	5.40 U		IAS

color Before: BRU	MIN
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Clarity Before:

Texture: MEDIUM

Color After: BROWN

Clarity After:

Artifacts:

Comments:

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£	SA SEE A TEN PER PER	mmu r			
	9/10546:1	U846			
TMA/Skinner &				W- C1	WDT DO -
WORKORDER S'	TURNARND	TENT HANEON	W-NOK	_ No. SA	MPLES:
PROTCL CLP	4 oc, or NA		(Soil)	Water\ 70	magifu Others
		•	SDG/BATCH		pecify Other)
CUSTODIAN	Benney	ITH THIM ON /NOT		NIA	n. 10 A
CUSTODY SEAL:	PRESENT ABSEN	TY INTACTO NOT	DO (COMBDA)		11480
SHIPER & # Fe	LARCENTO CIENCE	8796 EF 600	PO/CONTRAC	17 N2-0	1-180
TAGS: PRESENT			CONTACT De	plores Ja	nchez
CHAIN OF CUST	ODY: PRESENT	ABSENT/NA, #_	NA CO	MMENTS:	NONE
SAMPLE CONTAI	NERS INTACT/	BROKEN COMMEN	TS		
CLIENT COMMEN	TO VED INO S.	01 1-		A	`
SAMPLE LABELS	ACDER WITH (THAIN OF CHE	TODY THEORY	Males	OMENIA)
CLIENT PAPERW	ODE ACRES WITH	THE CAMPIPE	COCS (VEC)	COMMEN	mrent)
CLIENT PAPER	ORK AGREES WI	In SAMPLES (COC: (IES)/I	O (COMME	(T)
SHIPMENT DATE	5 01/24/92				
LIST ANY DATE		ORK/SHIPMENT	PROBLEMS & S	SPECIFY TH	HE PROBLEM:
		(NIA)			
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					· · · · · · · · · · · · · · · · · · ·
CLIENT ID	MATRIX R	ECEIVED QC	TEST (3)	HOLD TIME UP
		1 1		•	CN DUP
1 BOIRTS	soil o	21/24/92 0,5	TM	CN	01/29/92
2		11-11-		<u></u>	
3					HG-dup
4					02/10/92
5					Ochoric
6					
7					
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SUBCONTRACT:	YES/NO TO:			DATE:	
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EXPRESS	QUESTIONS? CALL 800-238-53	SS TOLL FREE.		AIRBILL PACKAGE TRACKING NUMBER	141	4548765
1275M 141	4548796 Date:			RECIPIEI	NT'S CO	Pγ
From (Your Name) Please Print Sample Control Company T M A /NORCAL Street Address 2030 WRIGHT AVE	610	Department/Floor No.	Company TMA/S Exact Street Address (Well	kinner & S	harman	ecipient's Phone Number (Very Importar 517) 890 - 720 (Department/Floor N
RICHMOND		Required 4 8 0 4	City	nam	State MA	7/P Required 02254
2320-6406 PAYMENT 1 Sell Sender 2 Bill Recipient's Cash/ SERVICES	FedEx Acct. No. 3 Bit 3rd Party FedEx. DELIVERY AND SPECIAL HANDL	The second	Card City Touri BIOLARS Emp. I		State	ZIP Required
(Check only one box) Pnonity Overnight Standard Overnight Owney by next barness atmosphility YOUR PACKAGING 51 POEX LETTER * 56 FEDEX LETTER *	(Check services required) 1 HOLD FOR PICK-UP (Fain Box H) 2 DELIVER SATURDAY (Exhibitions) (Not invested to all localities)	11:13		ish Received iturn Shipment ind Party Chg To Address	Del Chg	Pase Charges
12 FEDEX PAK * 52 FEDEX PAK * 13 FEDEX BOX 53 FEDEX BOX 14 FEDEX TUBE 54 FEDEX TUBE Economy Two-Day (Delays by accord business day)	4 OANGEROUS GOODS (Easte Change) 5 ORY ICE	Total Total DIM SHIPMENT (Cha	rgeable Weight) X	MB By	State Z	Other 2 Total Charges
90 ECONOMY 46 GOVT 41 GOVT 41 GOVT PICKAGE Freight Service 10 Esta Layo 6 ary package own 150 bs.) 70 REBERT 80 TWO-DAY	8 SATURDAY PICK-UP 9 SATURDAY PICK-UP 10 SENGRU-110N 11 DESGRU-110N 12 HOURAY DELIVERY (it climated)	Regular Stop	lbs. C red AI 3 □ Drop Box 4 □ BSC. FedEx	A.B se 01/24/92	10:30	PART VI37204 FXEM 9/91 FORMAT W099 1 990-91 FE C PRINTED IN U.S.A

2 D On-Call Slop

S D Station FedEx Emp. No.

*Declared Value Land \$200, **Call for delivery schedule.

11 DESCRIPTION

12 HOLIDAY DELIVERY of criseod)
(Extra criseogn)

Company	CHAI	N OF CUSTODY S & S
ustody Form Initiator C. E.	HEIDEN	— (509)
ompany ContactMIKE	STANKOVICH	Telephone 376-2493
roject Designation/Sampling Locat	tions $9/-93 100-DR-1$	Collection Date 1-15-92
SODIUM DICHROMA	TE TANK SOIL SAMPLIN	26
Chest No. RM #4	3	Field Logbook No WHC-N-429-
ll of Lading/Airbill No250	986525 9	Offsite Property No. We2-0-0625-
ethod of ShipmentEMEA		
ipped to TMA/NO		
essible Sample Hazards/Remarks	,	-
	Sample Identification	
3018T5 SOIL	4-250 ML	
CH HIS	192 	
	H-MC MC	
301873	1-250 mc	
30/874	1-250-Mt	
BOISTS SOIL	1-250-ML	
B018T7	-1-250mc	:
Field Transfer of Custody	CHAIN OF POSSESSION	(Sign and Print Names)
inquished by: C.E. Heiden	Received by:	Date/Time:
C.E. Beiden	Kermit Blum	1-21-92 1130
inquished by: 1-23-9		Date/Time:
Kermit Blum	ALSB	01/24/92 9:30
	Received by:	Date/Time:
inquished by:	Received by:	Date/Time:
inquish ed by: inquish ed by:	Received by: Final Sample Disposition	Date/Time:

Westinghouse SAMPLE ANALYSIS REQUEST **Hanford Company** PART I: FIELD SECTION Date Sampled 01/15/92 Time hours Collector _ F.W. Grustatson Company Contact Mike Stankovich Telephone (509) 376-2493 Sample Number and Type of Sample Type of Sample* **Analysis Requested** Number Containers Method BOISTS Soil ICP IAA Netak 6010) 250 ml AND Ha 1-250ml Soil 9010 834 gm 180m/ 250ml BOISTS 5011 1000m1 LAB SOP 1311 250 mil NOTE: Sample #'S BOIBT3, BOIBT4 BOIST6, BOIST7 BOISTS to be analyzed for TCLP (Method 1311) Field Information** 1-250 ml jars Special Handling and/or Storage ____ 11.70 Possible Sample Hazards _____ PART II: LABORATORY SECTION Title Sample Control Supervisor Date 1-21-92 Received by 2/8 smit Blum Analysis Required _____

9713916 1849THA/NORCAL:

^{*}Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

71-13-16-0

CASE NARRATIVE

GENERAL

1. Soil sample number B018J0 (TMA/Norcal Group No. 7010-2) for ⁹⁹Tc analysis was processed with the soils from location 100-HR-1 (TMA/Norcal Group Nos. 7026 and 7028).

QUALITY CONTROL

- 2. The internal quality control consisted of one sample each of a laboratory control sample, a blank, and a replicate. The replicate was 7010-8 and the blank and LCS were sample numbers 7026A-11 and 7026A-12 respectively.
- 3. <u>LABORATORY CONTROL SAMPLE</u> The MDA's for ⁹⁹Tc were 1.2 and 0.90 pCi/g which were above RDL of 0.50 pCi/g.
- 4. BLANKS The MDA's for 99Tc were 0.9 and 1.3 pCi/g.
- 5. REPLICATES The replicate was satisfactory.
- 6. $\frac{99\text{Tc Analyses}}{1}$: The average yield for twenty-six analyses was 46 ± 38%. The lowest yield was 14% and the highest was 78%. The average MDA was 1.0 ± 2.3 pCi/g. Positive concentration of ^{99}Tc was not found in the samples.

ATTACHMENT 1 DATA TABLE

Collection date: 1/15/92

Customer I.D.	TMA/Norcal Group No. 7010	Analys	is	Results pCi/g ± 2 σ	
BO18T5	1	Gross	Alpha	(4.62 ± 4.62)	E+00
(soil)	-	Gross		(7.48 ± 2.90)	E+00
(3011)		14C		(40.36 ± 6.83)	E+00
		⁹⁰ Sr		(1.9 ± 3.1)	E-01
		234U		(4.0 ± 0.7)	E-01
		235U		(3 ± 2)	E-02
		238 _U		(4.2 ± 0.7)	E-01
		238Pu		(2 ± 3)	E-02
		239Pu		(-1 ± 2)	E-02
		241Am		(4.76 ± 0.979)	E-01
		Gamma	Scan:	(
			40K	(1.105 ± 0.203)	E+01
			51Cr	<3.597	E+01
			⁶⁰ Co	<1.534	E-01
			65Zn	<4.849	E-01
			134Cs	<1.576	E-01
			¹³⁷ Cs	<1.327	E-01
			²²⁶ Ra	(6.184 ± 2.977)	E-01
			²²⁸ Th	(8.998 ± 2.418)	E-01
			²³² Th	<7.058	E-01
B018J0	2	Gross	-	(4.95 ± 10.4)	E+00
(soil)		Gross	Beta	(13.3 ± 4.85)	E+00
		14C		(25.06 ± 6.16)	E+00
		⁹⁰ Sr		(-0.18 ± 1.89)	E+00
		99Tc		(5.6 ± 4.9)	E-01
		234 _U		(5.1 ± 0.7)	E-01
		235 _U 238 _U		(1 ± 2)	E-02
		238Pu		(4.6 ± 0.6)	E-01
		239Pu		(-1 ± 2)	E-02
		241Am		(-1 ± 2)	E-02
		_	Coon:	(2.79 ± 4.79)	E-02
		Gamma	40K	(1.059 ± 0.215)	E+01
			51Cr	<4.319	E+01
			60Co	<1.522	E-01
			65Zn	<5.253	E-01
			134Cs	<1.632	E-01
			137Cs	<1.239	E-01
			²²⁶ Ra	(4.901 ± 1.988)	E-01
			²²⁸ Th	(1.020 ± 0.229)	E+00
			²³² Th	(7.117 ± 4.410)	E-01

OC SAMPLES PROCESSED

Sample I.D.		Туре	Analyses	Reported with Data Package
7010-3	(QC 7977)	Spike	Gross α,β	X
7010-4	(QC 7982)	LCS	Gross α, β	X
7010-5	(QC 7987)	Replicate	Gross α, β	X
7010-3	(QC 7981)	Spike	14C	x
7010-4	(QC 7986)	LCS	14C	X
7010-5	(QC 7991)	Replicate	14C	X
7010-3	(QC 8067)	Spike	⁹⁰ Sr	x
7010-4	(QC 8068)	LCS	90Sr	X
7010-5		Replicate	90Sr	X
7010-3	(QC 7980)	Spike	Isotopic U	x
7010-4	(QC 7985)	LCS	Isotopic U	X
7011-5	(QC 7990)	Replicate	Isotopic U	X
7010-3	(QC 7979)	Spike	Isotopic Pu	x
7010-4	(QC 7984)	LCS	Isotopic Pu	X
7010-5	(QC 7989)	Replicate	Isotopic Pu	X
7010-6	(QC 8144)	Spike	241Am	x
7010-7	(QC 8145)	LCS	241Am	X
7010-5	(QC 7989)	Replicate	241Am	X
7010-3			Gamma Scan	X
7010-4			Gamma Scan	X
7010-5	(QC 7988)	Replicate	Gamma Scan	X

Analysis, reanalysis, and reworks, etc.

Gross Alpha and Gross Beta Analyses: The results of the spike, the laboratory control sample were satisfactory. No abnormalities were encountered.

 14 C Analyses: The found/added ratio of 14 C spike was 0.84 \pm 0.03. The replicate results did not agree well. Most of the QC blanks failed because of the reasons given below:

Most of the QC blanks failed because of the following reasons:

Table 1 lists the order of ¹⁴C analyses processed and net counts per minute for the samples. All the sets in Table 1 were classified as low level analyses so it was assumed that the probability of cross contamination would be low. Therefore, no memory blank was run between samples to cleanse the system of potential contaminants. This assumption was true for all analyses except the laboratory control sample (LCS). The LCS had over 1000 cpm and some of this carried over to the next analysis. The average cross contamination was 0.4%. This is low enough that there was no carry over to the second analysis except for blanks. Table 1 lists the order in which samples were combusted.

All the sample results are valid. The process that led to contaminated blanks were limited to only the blanks.

The corrective action taken has been to institute the memory blank for all analyses regardless of presumed activity. This will be in the method due to be finalized in the next few weeks.

000005 TMA

TMA

<u>Strontium Analyses</u>: The average yield for 2 analyses was 72.5%. The lowest yield was 72% and the highest was 73%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

<u>Isotopic Uranium Analyses</u>: The average yield for 2 analyses was 55%. The lowest yield was 52% and the highest was 58%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

 $\frac{241}{\text{Am Analyses}}$: The average yield for 2 analyses was 62%. The lowest yield was 49% and the highest was 75%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

<u>Isotopic Pu Analyses</u>: The average yield for 2 analyses was 45%. The lowest yield was 40% and the highest was 50%. The results of the spike, the laboratory control sample, and the replicate were satisfactory. No abnormalities were encountered.

<u>Gamma Scan Analyses</u>: QC sample 7010-3 (QC 7978), spike for gamma scan, and QC sample 7010-4 (QC 7983), blank for gamma scan were mislabelled in the laboratory; 7010-3 was counted as a spike. With the mislabelling considered the found/added ratios for 7010-3 (QC 7978) spike for gamma scan are:

⁶⁰Co Found = (1.493 ± 0.330) E+02, Added: (1.436 ± 0.0574) E+02; F/A = 1.04 137 Cs Found = (1.551 ± 0.293) E+02, Added: (1.252 ± 0.0501) E+02; F/A = 1.24

and the blank results were satisfactory. No other abnormalities were encountered.

CASE NARRATIVE

1. Project 100-DR-1 Vadose Zone soil samples (TMA/Norcal Group Nos. 7010) were processed and the results of the analyses are reported. The sample ID's are:

Customer	TMA/Norcal	Customer	TMA/Norcal
Sample ID	<u>Group No.</u>	<u>Sample ID</u>	Group No.
BO18T5	7010-1	B018J0	7010-2

2. The analysis reported are:

	SOIL
Analyte Sample #	Group # & Sample #
Gross α & β	
	7010-1-2
	7010-1-2
Isotopic U	
Isotopic Pu	
²⁴¹ Am	7010-1-2
Gamma Scan	7010-1-2

- 3. Results are reported pCi/g with 2 σ errors.
- 4. The QC samples consisting of a spike, a laboratory control sample, and a replicate were processed with each batch as shown on Table 1.

TABLE 1
Preparation Batch
Samples Processed

Data Package

7010-1-2

- SOIL

TABLE 1

1

Order of Analysis	TMA/Norcal Sample I.D.	Description	Net cpm
1 2	7010-1		5.52
3	7010-2 7010-3	LCS	3.64
4	7010-3	Blank	1272. 4.79
5	7010-5	Duplicate	2.20
6	7009-1	Dapitouco	1.93
7	7009–2	LCS	1261.
8	7009-3	Blank	4.46
9	7009-4	Duplicate	3.79
10	7007-1	·	1.15
11	7007–2		1599
12	7007–3		0.99
13	7007-4		0.38
14	7007–5		0.90
15 16	7007 – 6 7007–7	D 1	1.69
16	7007-7 7007-8	Duplicate LCS	1.26
17	7007-8	Blank	1314.
18	7012-1	Blank	4.08 0.65
19	9582-1		1.19
20	9582-2		0.49
21	9582-3		0.95
22	9582-4		1.22
23	9582-5		1.44
24	95826		6.20
25	9582-7	Duplicate	1.30
26	9582-8	LCS	1352.
27	9582-9	Blank	6.87
28	7027-1		0.57
29 30	7027-2		0.89
31	7027-3 7027-4		0.45
32	7027-4		0.55
33	7027-6		0.30 0.54
34	7030-1		-0.16
35	7030-2		0.07
36	7034-1		()
37	7034-2		0.50
38	7034-3		0.15
39	7034–4		0.37
40	7034-5		0.38
41	7034–6		0.50
42	7034-7		0.59
43	7034–8		0.29
44	7034-9	LCS	1349.
45	7034–10	Blank	43.52
46	7034–11	Duplicate	()
47 48	7042-1		1.00
48	7042-2 7042-3		0.02
50	7042-4		3.64 2.24
30	7042-4		2.24

TABLE 1 (cont'd.

Order of	TMA/Norcal	Description	Net cpm
<u>Analysis</u>	Sample I.D.		
51	7042–5		6.98
52	7042-6		92.15
53	7042-7		19.06
54	7042-7	LCS	1421.
55	7042-9	Blank	5.12
56	7042-10	Duplicate	1.33
57	7039-1	Dupilouco	0.04
58	7039-2		0.13
59	7039–3		0.74
60	7039-4		0.58
61	7039-5		1360.
62	7039-6		1.5

Westinghouse Hanford Company	3/1350p. U85/	CHAIN OF CUSTODY	000018
Project Designation/Sampling Local Society DICHROMA CE Chest No. RM # 4 Still of Lading/Airbill No. 25 Method of Shipment EME	STANKOVICH ations 91-93 100-D. ATE TANK SOIL SAM 1-3 1-986525 9 1-84 1-84 1-86 1-86 1-86 1-86 1-86 1-86 1-86 1-86	Collection Date OPCING Field Logbook No Offsite Property N	
	Sample Identification		
BAIRTS SAIL	Sample Identificatio	on	
BOISTS SOIL	4-250 ML	· · · · · · · · · · · · · · · · · · ·	
	1-120 ML		
201077	1 - 60 MC		
B018T3	1-250 ML		
B0/874	1-250 MC		
	1-250 ML		
B018T7	1-250MC		
B01878)	1-250ML		
Field Transfer of Custody	CHAIN OF POSSESSIO	ON (Sign	and Print Names)
elinquished by: C.E. Heiden	Received by:	Date/Time:	
C.E. Heiden	Kermit Blum	1-21-92	1130
elinquished by:	Received by:	Date/Time:	
elinquished by:	Received by:	Date/Time:	
elinquish ed by:	Received by:	Date/Time:	
	Final Sample Disposition	on I	
isposal Method:	Disposed by:	Date/Time:	
omments:			

W	Westinghouse Hanford Company
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SAMPLE ANALYSIS REQUEST

Trainers company					
		PART I: FIELD S	ECTION		
Collector	F.W. Gustafson		Date Sampled <u>OI/15/92</u> Time hours		
	tact Mike Stankovic	:h	Telephone (509) 376-2493		
			1,277 010 01		
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested Method		
B018T5	2-1000m(1-120m1 4-250m1 1-60m1	Soil	ICP JAA Metals (6010)		
	3		AND Hg 7470 < 250 ml		
BO1873	1-250ml	Soil	Cyanide 9010 250 m/		
B018T4	1	1	VOA 8240 120 ml		
B018T6			Semi-VOA 8270)		
B018T7	V	V	PCB's/Resticides 8080 (1000 ml		
1301878	1-250m1	5011	Anions (IC) EAA 300.0		
			Carbon'4 LABSOP GOMI		
			Strontium-90 LABSOP		
•			U-235		
			U-338/239		
			Ru-339/240		
			Gross Alpha 71000 ml		
			Gross Beta		
			Gamma Spec V		
			Am-241 LAB SOP)		
			TCLP 1311 250 ml		
			NOTE: Sample #15 BOIRTS, BOIRTY		
			B018T6, B018T7, B018T8 to be		
Field Informa	tion**		analyzed for TCLP (Method 1311)		
	only. (1-250 ml jars)				
Special Handl	ling and/or Storage				
Possible Samp	ole Hazards				
		PART II: LABORATO	ORY SECTION		
Received by	Hermit Blum	Title Som	ple Control Supervisor Date 1-21-92		
	uired				

^{*}Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

Westinghouse Hanford Company	10006,0859	CHAIN	I OF CUSTODY	000020
Custody Form Initiator	hunce			
Company Contact J.D. Fancher		DESCRIPTION OF STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,	Telephone (509)	3 76-2081
Project Designation/Sampling Locat	ions 100 DR-1 Vados	se Zone Samplino	Collection Date	1-15-92
BH 116-DR-9A				
Ice Chest No. 5ML 99			Field Logbook No	WHC-N-56A
Bill of Lading/Airbill No.			Offsite Property N	10. W92-0-0011
Method of ShipmentOvernight				
Shipped to TMA/NORCAL 2030 Wr	ight Ave. Richmond	Ca. 94804		
Possible Sample Hazards/Remarks	Maintain at 4°C			
	Sample Id	entification		
B01370				
Gross Alpha/Bet (1)1000ml G bottle (Radiocher	a, Gamma Spec. Alpha Spec mistry, Sr-90,	(1)1000ml G	bottle(Radiochemi	stry, Sr-90,
C-14, Tc-99)		C-14,Tc-99)		
(1) 250ml G bottle(ICP/AA m	etals,Hg)	(1) 250ml G	bottle(ICP/AA met	
(1) 250ml aG bottle(Semi-VO	A,PCB's/PEST.)		bottle(Semi-VOA,	
(1) 125ml G bottle(Cyanide)			bottle(Cyanide)	
(1) 125ml G bottle(VOA)		(1) 125ml G	bottle(VOA)	
		, and the same of		
☐ Field Transfer of Custody	CHAIN OF P	OSSESSION	(Sign	and Print Names)
Relinquished by: CMChanco	Received by:		Date/Time:	
Cong Change	Kermit 1	Blum	1-21-92	1115
Relinquished by:	Received by:		Date/Time:	
Relinquished by:	Received by:	TOTAL TOTAL TOTAL STREET	Date/Time:	
Relinquished by:	Received by:		Date/Time:	
	Final Sample	P Disposition		
Disposal Method:	Disposed by:		Date/Time:	
Comments:			, h. mai	

(982)	Westinghouse	
(<u>w</u>)	Westinghouse Hanford Comp	any

Hanford Company			
	PART I: FIELD	SECTION	
MChance		Date Sampled 1-15-92 Time 0920 hours	
act J.D. Fancher		Telephone (509) 376-2081	
Number and Type of Sample Containers	Type of Sample*	Analysis Requested Alpha Spec	
1-1000ml glass	Soil	Gross alpha/beta,Gamma Spec.,Sr-90,Tc-99,C-	
1-250ml glass	Soil	ICP/AA metals, Hg(CLP)	
1-250ml amber glass	Soil	Semi-VOA,PCB's/PEST.(CLP)	
1-125ml glass	Soil	Cyanide(CLP)	
1-125ml glass	Soil	VOA(CLP)	
1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90,Tc-99,C-14	
1-250ml glass	Soil	ICP/AA metaTs, Hg(CLP)	
1-250ml glass amber	Soil	Semi-VOA,PCB's/PEST.(CLP)	
1-125ml glass	Soil	Cyanide(CLP)	
1-125ml glass	Soil	VOA(CLP)	
on**			
ng and/or Storage			
e Hazards			
		the same and the s	
Kermit Blum	Title Some	le Costrol Supervisor Date 1-21-92	
	Number and Type of Sample Containers 1-1000ml glass 1-250ml glass 1-250ml glass 1-125ml glass 1-125ml glass 1-125ml glass 1-250ml glass 1-250ml glass 1-250ml glass 1-250ml glass 1-25ml glass 1-25ml glass 1-125ml glass 1-45ml glass	PART I: FIELD M Chance act J.D. Fancher Number and Type of Sample Containers 1-1000ml glass 1-250ml glass 1-250ml amber glass 1-125ml glass Soil 1-125ml glass Soil 1-250ml glass Soil 1-125ml glass Soil 1-250ml glass Soil 1-250ml glass Soil 1-250ml glass Soil 1-250ml glass Soil 1-125ml glass Soil 1-125ml glass Soil T-125ml glass Soil T-125ml glass Title Some	

*Indicate whether sample is soil, sludge, water, etc.

**Use back of page for additional information relative to sample location.

On 150 52186 Saturday Delivery" "Signature Security"

Contractor Westinghouse

White, Green, Yellow, Pink - Property Management

Goldenrod - Retain

OFF-SITE PROPERTY CONTROL

CONTROL NUMBER
(To be obtained from PROPERTY MANAGEMENT) W92-0-0123-29

	PART I – T	BE COMPLETED BY ORIGINATOR			
Department	tal Ergineering Section Te	chnical Baseline Unit			
The f	following items are to be shipped from	☑ Contractor ☐ Vendor			
Rout		☐ Contractor ☐ Vendor			
Shipped to TMA 303 Rich	NORCAL O Wright Ave. hmore, CA 94804	Off-site Custodian Attn: Robert Full Title Sample Rece			
Quantity	·	erial and any Government Tag Numbers)	Original Cost		
1 42165.	Poly Ice Chest (RM # 43 42165 Glass jars of soil, packed in vermiculite and blue ice Sample # BOISTS, BOISTS, BOIST4, BOIST6 BOIST7, BOISTS				
Classified Unclassified Shipped Under DOE Contract Shipped Under Contractor's Use Permit Contract Necessity for the Off-Site Use of this Property Program not available on site, Bill of Lading # 250986525 9					
CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING. RM Clearance to Public Release RM Survey No 170-18 Location of Property (Area & Bidg.) 172-DR-1 Contact of C					
Sodium U	y (Area & Bldg.) 100-DR-1 Cont.	C.E. Heiden	6-2640		
Oli 7/92 Cost Code to be Charged PB21C 8/23, Property will be Returned N/4					
Originated By CE. Heid	en Date	17/90 Authoryzed, By	Date 1-17-92		
Signature and Name of Property Control Custodian Date Property Management Approval Date			Date 1-17-92		
	PART II - TO BE COMPLETED BY SHIPPING				
Signature of Recipi	Retu		rchase Order No. Date issued		
	By Decoupator	Shipping Operation – Sign a	Il Copies and Forward to:		
	By Originator	Jingping Operation - Jigira			

White - Property Management

Yellow - Retain

Green - Property Control Custodian (Issuing Office)

Pink - Originator

FORM NO. 60001-46

1

18

10

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COCOCA

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•	FECORD OF EISPOSITION	ROD-92-00031
EATE: 1/17/92	LABORATORY: WESTON	100-DR-1
SAMPLE IDENTIFICATION NUMBERS	•	•
* Preject Wite		•
		3508
2315825 30 POLITICOSE11	•	50
CANCELLED (PEASON)		
DAMAGED SAMPLE CONTAINER. AND ERCKEN GLASS CONTAMINATING SA		
SEE ATTACHED	ISI.	•
		•
APPROVED PRINTED TOURS TAILED	1/17/92 200 11 CHATCAL F	EXPENSATIVE BATE 1/23/92

. Munimet: Alpha Spuc.

Jan.

Weaton would like to have you put the radionactides for the alpha spec analysis on the chain of custody. The alpha spec can be used for several radionactide determinations. If they are listed on the COC then Weston will know exactly what to perform for alpha spec.

The isotopes on the list that was provided to me for the 100-DR-1 project for alpha spec were:

Uranium-235,230 Plutunium-239/240 Americium-241

Thanks.

Dun Edwards

DON'T SAY IT WRITE 17/65

DATE: <u>January 15, 1992</u>

TO: Josie King, Weston Laboratories FROM: Dan Edwards, WILC OSM

cc: Karl Pool

Jeff Lerch

Jeanette Duncan

SUBJECT: 100-DR-1 ANALYSIS. ALPHA SPECTROSCOPY

Alpha Spectroscopy has been requested on samples from the 100-DR-1 Vadose project (OSM project number 91-003).

Alpha spectroscopy is to be performed on all 100-DR-1 Vadose samples that have this analysis indicated on the Sample Analysis Request form. The isotopes of concern for the alpha spectroscopy are Uranium-235, Uranium-230, Plutonium-239/240, and Americium-241.

The letter written by M. A. Beck (dated October 23, 1991) concerning alpha/beta spectroscopy will not apply for this project.

	RECORD OF DISPOSITION	ROD-92-000	43
DATE: 1/23/92	LABORATORY: TMA	100-DR-1	91-093
SAMPLE IDENTIFICATION NUMBERS			
BOLET3 BOLET 7 BOLET4 BOLET 6 BOLET 9 BOLET 9			
DISPOSITION OF SAMPLES			
CANCELLED (REASON)			
DAMAGED SAMPLE CONTAINER. ANAL	YSIS CANCELLED		
BROKEN GLASS CONTAMINATING SAMP	LE. ANALYSIS CANCELLED		
OTHER TOTAL ACTIVITY TO TMA. TOTAL ON 1/22/92.	REPORTS WELE NOT SUPP	TENT WITH SAMPLES White Stankovich	
APPROVED Land & Paleralds PROJECT COORDINATOR	1/23/92 DATE TE	CHNICAL REPRESENTATIVE DA	be TE

SAMPLE STATUS REPORT FOR E 299, E-BLANK BOLBTS TIME: 1/16/92 8:25

DISPATCHED: 1/15/92 13:53 SAMPLE HAS NOT BEEN SLUPPED

RECEIVED: 1/15/92 14:44

OUT OF GOOD CHARGE RANGE? ANS? CODE EXT. DETER. RESULTS OR STATUS **** ******* ****** ************* *** *** ***** N PB21C

END OF REPORT

4271 TOT-ACT < 5.00000E O1 PICI/G

SAMPLE STATUS REPORT FOR E 300. E-BLANK B018T6 TIME: 1/16/92 8:25

DISPATCHED: 1/15/92 13:53 SAMPLE HAS NOT BEEN SLURPED

RECEIVED: 1/15/92 14:44

4271 10T-ACT < 5.00000E 01 PICT/G N Y PB21C

END OF REPORT

SAMPLE STATUS REPORT FOR E SOL. E-BLANK BOLATZ TIME: 1/16/92 8:25

DISPATCHED: 1/15/92 13:54 SAMPLE HAS NOT BEEN SLUBFED

RECEIVED: 1/15/92 14:44

END OF REPORT

SAMPLE STAINE REPORT ROW IN TOTAL BOLER BOLERS TOTAL AMERICAN ST. OF ORDER SOCIETY.

RECEIVED: 1/15/72 1/15/

EXT. DETER. RESULTS OR STATUS

4271 TOT-ACT < 5.000000 01 PICI/G

OUT OF SOOD CHARGE RANGET ANST CODE *** ******* N Y PROTE

END OF REPORT

CONTROL OF THE PROPERTY OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF THE POST OF T

BUNGER TOOK OF THE RANGET AND LONE *** *** T****** N Y MEVIC EXT. DETER. RESULTS OR STATUS

ENO OF PERMIS

	RECORD OF DISPOSITION	ROD-92-00044
DATE: 1/29/92	LABORATORY: TMA	100-DR-1 VADOSE
SAMPLE IDENTIFICATION NUMBERS		
B018JO		
DISPOSITION OF SAMPLES		• •
CANCELLED (REASON)		
DAMAGED SAMPLE CONTAINER	. ANALYSIS CANCELLED	
BROKEN GLASS CONTAMINATION	NG SAMPLE. ANALYSIS CANCELLED	
OTHER Alpha Spec. ATTACHED PS to Westen.	analytes not listed on C.O.C. or I to DELORES SANCHEZ (1/29/92).	- S.A.R. \$ SEE ALSO RID-92-0031
APPROVED Sonul L. Solution	DATE TECHNICAL NAIK	Made ruber 1/3/92 REPRESENTATIVE DATE

9713506_0873

DON'T SAY IT -- WRITE IT!

DATE: <u>January 29, 1992</u>

TO: Delores Sanchez, TMA Laboratories FROM: Dan Edwards, WHC OSM

cc: Karl Pool

Jeff Lerch

Jeanette Duncan

SUBJECT: 100-DR-1 ANALYSIS, ALPHA SPECTROSCOPY

Alpha Spectroscopy has been requested on sample BO18JO from the 100-DR-1 Vadose project (OSM project number 91-083).

The isotopes of concern for the alpha spectroscopy are Uranium-235, Uranium-238, Plutonium-239/240, and Americium-241.

The sampling team has been instructed to list the specific radionuclides for Alpha Spectroscopy on the chain of custody and sample analysis request form.

Westinghouse Hanford Company

CHAIN OF CUSTODY

Custody Form Initiator CMC	hunce	·		
Company Contact J.D. Fancher			Telephone (509) 376-2081	
Project Designation/Sampling Location	ons 100 UR-1 Vados	e Zone Sampling	Collection Date 1-15-43	
BH 116-DR-9A		· · · · · · · · · · · · · · · · · · ·		
Ice Chest No			Field Logbook No. WHC-N-56	
Bill of Lading/Airbill No.			Offsite Property No. W92-0-001	
Method of Shipment Overnight	Air Delivery			
Shipped to TMA/NORCAL 2030 Wri	ght Ave. Richmond	Ca. 94804		
Possible Sample Hazards/Remarks N	laintain at 4°C			
			•	
	Sample Ide	entification		
B01370				
(1)1000ml G bottle (Radiochen	nictry, Sr-90,	(1)1000ml G be	ottle(Radiochemistry, Sr-90.	
	C-14,Tc-99)		(-14,Tc-99)	
(1) 250ml G bottle(ICP/AA me	tals,Hg)	(1) 250ml G b	ottle(ICD/AA metals, Hg)	
(1) 250ml aG bottle(Semi-VOA,PCB's/PEST.) (1) 250ml			bottle(Semi-VUA, PCB's/PEST.)	
(1) 125ml G bottle(Cyanide)		(1) 125ml G bi	ottle(Cyanide)	
(1) 125ml G bottle(VOA)		(1) 125m1 G 6	ottle(VOA)	
		/		
☐ Field Transfer of Custody		POSSESSION	(Sign and Print Names	
Relinquished by: CMChanca	Received by:	n I	Date/Time:	
Relinquished by:	Received by:	Dum	1-21-92 1115 Date/Time:	
The state of the s	Naccived by			
Relinquished by:	. Received by:		Date/Time:	
Relinquished by:	Received by:		Date/Time: *	
	Final Sample	Disposition		
Disposal Method	Disposed by:		Date/Time:	

RP	Westinghouse
	Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

) hamord company	PART I: FIELD	SECTION
	MChance		Date Sampled 1-15-92 Time 0920 hours Telephone (509) 376-2081
Sample Number	Number and Type of Sample Containers	-Type of Sample*	- Analysis Requested Alche Spec
U	1-1000ml glass ·	Soil	Gross alpha/beta, Gamma Spec., Sr-90, Tc-99, C-
•	1-250ml glass	Soil	ICP/AA metals, Hg(CLP)
B018J06	1-250ml amber glass	Soil	Semi-YOA, PCB's/PEST. (CLP)
0		Soil	Cyanide(CLP)
- 3	1-125ml glass	So11	VOA(CLP)
	1-1000ml glass	Soil	Gross alpha/beta, Gamma Spec.Sr-90,Tc-99,C-14
	1-250ml glass	Soil	ICP/AA maters, Hg(CLP)
	1-250ml glass amber	Soil	SemT-VOA, PCB's/PEST. (CLP)
	1-125ml glass	Soil	Cyanide(CLP)
	1-125ml glass	Soil	VOA(CLP)
	:		
Teld Informati	ion**		
pecial Handli	ng and/or Storage		
ossible Sampl	e Hazards		
		PARTII: LABORATO	DRY SECTION
eceived bynalysis Requi		Title Some	le Control Supervisor Date 1-21-92

PROJECT 91-93/100-DR-1		RECORD OF DISPOSITION		ROD-92-00051
DATE: 2/5/92		LABORATORY:	TMA	
SAMPLE IDENTIFICATION	NUMBERS			
B018T3 B018T4 B018T6 B018T7	B018T8 B018T9 B018T5	Samples Changes, BOINZ1,	BOINZ8	BOIWZ3, BOIWZ4, BOIWZ5,
DISPOSITION OF SAMP				
☐ DAMAGED SAMPL	E CONTAINER. ANA	LYSIS CANCELLED		
☐ BROKEN GLASS	CONTAMINATING SA	MPLE. ANALYSIS CANCELLED.		
EACH.		TS WERE NOT LABELED WITH CORRECT ALIQUOT WITH ANA		
APPROVED PROJECT CO	Seguen 2 OORDINATOR	-6-92 DATE	TECHNICAL RE	EPRESENTATIVE DATE

(-	Hanford Company	SAMPLE ANALYSIS REQUEST			
		PART I: FIELD S	ECTION		
ollector	F.W. Gustatson		Date Sampled 01/15/92 Time hou		
ompany Con	tact Mike Stankovic	h	Telephone (509) 376-2493 .		
Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested Method		
BOISTS	2-1000m1 1-120m1 4-250m1 1-100m1	Soil	ICP/44 Metals (6010)		
	3		4ND Ha 7470 2 250 m		
BO18-T3	1-250m1	Soil	Cyanide 9010 250 m		
BC18 T4	1	1	VOA 5340 130 m		
B018T6			Semi -VOA 8270		
BOIST7	V	1 4	POBOlkesticides BORO (1000)		
13018TE 1-350m1	Soil	Anions (IC) EPA 300.0)			
		Carbon "4 LABSOP GO n			
			Strontrum-90 LAB JOP		
•			U-235 A		
•			U-338/239		
			Pe- 339/240		
			(51055 Alpha 71000		
			Gross Beta		
			Gamma Spec V		
			Am-241 LAB 50P)		
			TCLP 1311 250 m		
			NOTE: Gample #.5 BOIRT3 BOIRT4		
			BOIRTIN BOIRTT BOIRTE to 6		
eld Informa	tion**	, , , , , , , , , , , , , , , , , , ,	analyzed for TCLP (Method 1311		
			only (1-250 ml jars)		
	· · · · · · · · · · · · · · · · · · ·				
pecial Hand	ling and/or Storage				

PART II: LABORATORY SECTION

Received by ______ Title _____ Date _____

Analysis Required _____

^{*}Indicate whether sample is soil, sludge, water, etc.
**Use back of page for additional information relative to sample location.

. ' - Westinghouse Hanford 7 Company	FCUSTODY		
Project Designation/Sampling Location	ons 91-93 100-DR-1	Collection Date 1-15-92	
SODIUM DICHROMAT Ice Chest No RM # 43 Bill of Lading/Airbill No 2509 Method of Shipment EMER	Field Logbook No. W42-0-063-2		
	CAL RICHMOND, CA.		
B018T4 1	Sample Identification - 1000 ML - 250 ML - 120 ML - 60 MC - 250 ML 1 - 250 ML 1 - 250 ML		
Field Transfer of Custody	CHAIN OF POSSESSION	(Sign and Print Names)	
eiinquished by: C.E. Heiden C.E. Heiden	Received by:	Date/Time:	
elinquished by:	Received by:	Date/Time:	
elinquished by:	Received by:	Date/Time:	
elinquished by:	Received by:	Date/Time:	
	Final Sample Disposition		

9713506.0879 aturday Lelivery"

Signature Security

Hanford Co.

White, Green, Yellow, Pink - Property Management

Goldenrod - Retain

OFF-SITE PROPERTY CONTROL

CONTROL NUMBER
(To be obtained from PROPERTY MANAGEMENT) W92-0-0123-29

	PA	RTI-TO BE COMPLETED BY	RIGINATOR		
Department Foul (unment	tal Engineering Section	on Technical Ba.	seline.	Unit	
The	following items are to be shipped fro	m	☐ Vendor		
Rout	-	Contractor	☐ Vendor		
Shipped to TMA 303 Ric	A/NORCAL BO Wright Ave. homord, CA 94804		an Hn: Robe Sample Ke		
Quantity	Description (II	nclude Serial and any Governi	ment Tag Number	rs)	Original Cost
1 42163.	Poly Ice Chest (RM - Glass jars of soil, - Sample # BOI BO	packed in Vermile 1875, Boists 1877, Boists	3, BOIST	A blue vice. 4, BOISTL	
Classifie	Unclassified S	hipped Under DOE Contract	☐ Shipped	Under Contractor's Us	e Permit Contract
	n not available of lading # _ as		THE SAME DAY TH	IAT MATERIAL IS DELIV	VERED TO SHIPPING.
RM Cleatance to		RM Surve			Date 1 -/7 -97
Location of Proper	ig (Area & Bldg.) 100-DR-1 ichromate Tank	Contact C.E. Heide			Phone 6-2640
Date Ready for Ship	pment	Cost Code to be Charged	31223,	Approximate Date This Property will be Return	
Originated By CE. Heid	len en	Date 01/17/90 Autrary	2)=a,8y		Date 1-17-92
Signature and Nam	e of Property Control	Custodian Date Propert	y Management A	oproval	Date 1-17-92
	P	ART II - TO BE COMPLETED	Y SHIPPING	\	
Signature of Recipi	()el- 1-17-9-2	Return Order No.	Date Issued	Purchase Order No.	Date Issued
	t death and a second	DISTRIBUTION			
	By Originator	Ship	ping Operation -	Sign all Copies and For	ward to:

Yellow - Retain

White - Property Management Green - Property Control Custodian (Issuing Office)

Pink - Originator

Westinghouse Hanford Company Hanford Company No. See 1979 Michael, We. 99352 REF	NCONFORMANCE	No.
	PORT	Page 1 of B 07704
1. MFR/ORG WHC ITEM/MATERIAL NAM	ME ENVIT. JAMPLE	PART NO. NA
DRAWING/SPEC, NO.		.1/1
		REV. N/A
PROGRAM/PROJECT	010	P.O.W.O. NO. 91-093
REPORT REQUIRED TES NO SYSTEM/END USE	NA	DATE 1/15/92
2. DESCRIPTION OF NONCONFORMANCE - SAMPLE NUMBERS BOIST3, BOIST4,	J. REQUIREMENT VIOLA Unique sample	
BOISTS, BOIST6, BOIST7, BOISTS	number not	WHC-EP-0372 Volume 1
- HEIS Numbers were duplicated on	sample	HEIS USERS
samples for 100-DR-1. JAMPLES WERE	Sample	manua/
sent with identical numbers to both		
	ha	12.500 mm
the TMA and Weston taberatae ALEI/231	Smil L. Chu	1 17302
laboratories.	ORIGINATOR	ORGANIZATION DATE
4. ASME CODE ITEM(a)	W	C .
MO TYES. NOTIFY AUTHORIZED IN	ASPECTOR. QA	NA
5. CAUSE OF NONCONFORMANCE	6. CORRECTIVE ACTION	TO ELIMINATE CAUSE
PROCEDURES PERSONNEL MATERIALS EQUIPMENT OTHERS		
REMARKS:		
	INITIATION DATE	SERIAL NO.
	RESPONSIBLE ORG. REF	. TITLE DATE
7. RECOMMENDED DISPOSITION	REJECT REF	AIR KREWORK OTHER
A. DISPOSITION JUSTIFICATION AND INSTRUCTIONS		9. ADDITIONAL REVIEWS REQUIRED
The sample Numbers assigned to the West	on Lab shall remain	
the same. The numbers assigned to the T	TMA lab shall be	IF YES, IDENTIFY:
changed as per the WHC Internal Memo		
(see attached). The samples collected were ,		
separate sample bottles, and sent to two d	Effect laboratorie	
Each separate lab received the currect numbe	r of sample bottles	
Each separate lab received the currect number and sizes; therefore, traceability was not a	r of sample bottles	
Each separate lab received the correct number and sizes; therefore, traceobility was not a	r of sample bottles	
Each separate lab received the correct number and sizes; therefore, transability was not a D-II PN-003 SW-01	compromised.	
Each separate lab received the currect number and sizes; therefore, tracability was not a D-III, PN-003 SW-01 BB. SUPPLIER ENG. NA SUPPLIER OA 10. DISPOSITION APPROVAL (WHC ONLY) 11. ADDITION	of sample bottles compromised, NA NAL APPROVALS	
Each separate lab received the correct number and sizes; therefore, tracestility was not a D-III, PN-003 SW-01 88. SUPPLIER ENG. O DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED NAME	compromised. <u>NA</u>	TE NAME TITLE DATE
Each separate lab received the correct number and sizes; therefore, tracability was not a D-III PN-003 SW-01 BB. SUPPLIER ENG. NA SUPPLIER QA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) follows TM. Name Name	of sample bottles compromised, NA NAL APPROVALS	
Each separate lab received the correct number and sizes; the efore, tracability was not a D-II PN-003 SW-01 88. SUPPLIER ENG. NA SUPPLIER GA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) follow NAME N. NAIKNIMBALKAR 5721/92 COGNIZANT ENGINEER DATE	of sample bottles compromised, NA NAL APPROVALS	TE NAME TITLE DATE
Each separate lab received the currect number and sizes; the efore, tracability was not a D-II PN-003 SW-01 88. SUPPLIER ENG. NA SUPPLIER GA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) N. NAIKNIMBALKIR COGNIZANT ENGINEER GS. CORRIGAN STIMBALKIR COGNIZANT QA ENGINEER DATE COGNIZANT QA ENGINEER DATE	of sample bottles compromised, NA NAL APPROVALS	TE NAME TITLE DATE
Each separate lab received the correct number and sizes; therefore, tracability was not a D-III PN-003 SW-01 BB. SUPPLIER ENG. NA SUPPLIER QA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) FOLLOW NAME NAIKNIMBALKAR 5721/92 COGNIZANT ENGINEER COGNIZANT QA ENGINEER NA NA NA DATE NA	of sample bottles compromised, NA NAL APPROVALS	TE NAME TITLE DATE
Each separate lab received the correct number and sizes; therefore, tracability was not a D-II PN-003 SW-01 88. SUPPLIER ENG. NA SUPPLIER QA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) NAIKNIMBALKIR 5721/92 COGNIZANT ENGINEER OATE COGNIZANT QA ENGINEER NA AUTHORIZED INSPECTOR REVIEW DATE	of sample bottles compromised, NA NAL APPROVALS	TE NAME TITLE DATE
Each separate lab received the currect number of sizes; the efore, tracability was not of D-IV PN-003 SW-01 88. SUPPLIER ENG. NA SUPPLIER QA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) NAIKNIMBALKIR COGNIZANT ENGINEER DATE OATE NA AUTHORIZED INSPECTOR REVIEW DATE 12. DISPOSITION ACTION COMPLETE COMMITTED INSPECTOR REVIEW DATE DATE DATE OTY. ACCEPT	of sample bottles compromised, NA NAL APPROVALS	TE NAME TITLE DATE
Each separate lab received the currect number of sizes; the efore, tracability was not a D-IV PN-003 SW-01 8B. SUPPLIER ENG. NA SUPPLIER QA 10. DISPOSITION APPROVAL (WHC ONLY) MAPPROVED DISAPPROVED OTHER (SEE CONTINUATION SHEET) NAIKNIMBAKKAR 5721/92 COGNIZANT ENGINEER DATE AUTHORIZED INSPECTOR REVIEW DATE 12. DISPOSITION ACTION COMPLETE NAME DATE OTY. ACCEPT	v of sample bottles compromised. NA NAL APPROVALS TITLE DAT	FOLLOW ON NCR
Each separate lab received the currect number of sizes; the efore, tracability was not a D-IV PN-003 SW-01 BB. SUPPLIER ENG. NA SUPPLIER QA BB. SUPPLIER ENG. NA SUPPLIER QA BB. SUPPLIER ENG. SUPPLIER QA BB. SUPPLIER ENG. SUPPLIER QA SUPPLIER QA SUPPLIER QA II. ADDITION NAME OTHER (SEE CONTINUATION SHEET) L. NAIKNIMBAKKE 5721/92 COGNIZANT ENGINEER DATE AUTHORIZED INSPECTOR REVIEW DATE 2. DISPOSITION ACTION COMPLETE SAME CANADO STAR QUELLE COTY. ACCEPT	MA NAL APPROVALS TITLE DAT ATY. REJ.	THE NAME TITLE DATE A TO PROVISIONS OF the order. FOLLOW-UP R

**** * * **

المركاة مدد الأليد

ignarai Afrachade

חורחתברם שנים

Final Sample Disposition

B-or Theor

Westinghouse Hanford 7 Company	13506 10882	ANALYTICS→ 509 373 3992;# 57 3
Custody Form Initiator C. E.		609)
Company ContactMIKE	STANKOVICH	Telephone 376-2493
Project Designation/Sampling Locati	ons 91-93 100-DR-	Collection Date 1-15-92
	MATE TANK SOIL SAM	PLING
ice Chest NoRM#105	2	Field Logbook No.WHC-N-429
Bill of Lading/Airbill No350	1986540.2	Offsite Property No W92-0-003-3
Method of ShipmentEMER	Y	
Shipped to WESTON	LIONVILLE, PA	•
Possible Sample Hazards/Remarks	,	
2010777 2 1000 11	Sample Identification	
B01873 2-1000 M		
301874 - WW - 120 M		
B01876) 1-60 MC		
B01817 (34-250 M	16 3016	
B01878 1-120 M		
B01879 - 1-1201	14	LABORATORY
BOIST5 - 1-250,	MC - 501L	LABOTOPY
Field Transfer of Custody	CHAIN OF POSSESSION	(Sign and Print Names)
elinquished by: C.E. Heiden C.E. Koevden	Received by:	Date/Time:
slinquished by:	Received by:	Date/Time: 1-18-92 18:15
elinquished by:	Received by:	* Date/Time:
Hinquished by:	Received by:	Date/Time:
	Final Sample Disposition	
sposal Method:	Disposed by:	Date/Time:

From:

Environmental Data Management

81260-92-062

Phone:

6-8034 H4-52

Date:

April 24, 1992

Subject:

SAMPLE NUMBER REASSIGNMENT - NCR B07704 (EQA-92-008)

To:

N. M. Naiknimbalkar H4 - 55

cc: G. S. Corrigan H4-16 R. D. Fox H4 - 52

M. R. Schwab H4 - 52Reference File #SCR 36

RDF File/LB

The NCR addressed the assignment of duplicate sample numbers issued for samples sent to two different analytical laboratories.

The Environmental Data Management (EDM) obtained six new HEIS sample numbers from the Office of Sample Management (OSM) to replace the duplicate numbers inadvertently assigned to the samples sent to the TMA Laboratories.

The new HEIS sample number assignments for the TMA laboratory numbers are:

PREVIOUSLY ASSIGNED	NEWLY ASSIGNED
B018T3	BO1WZ3
B018T4	BO1WZ4
B018T5	B01WZ5
B018T6	BO1WZ6
B018T7	BO1WZ7
B018T8	B01WZ8

Copies of the HEIS sample number assignment records are attached for filing with the NCR in the Project Files.

Z. Duane Farris

HEIS Data Coordinator

blu

Attachments 3

-SAMPLE.

Sample Number 801WZ3
Assigned By OSM
Assigned Date 02/05/72
Assigned To D. Z. FARRIS/EDM
Generation Date 01/29/92
Status C Checked out

MODE: query Owner SYSTEM Control 0

Media Lambert N/S Coordinate Lambert E/W Coordinate

Return Count

F1Help SF1Code SF2Save SF5SQL F7Clr F8Exit F9Next SF9Back F10Exec SF10Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

-SAMPLE -

Sample Number B01WZ4
Assigned By OSM
Assigned Date 02/05/92
Assigned To D. Z. FARRIS/EDM
Generation Date 01/29/92
Status C Checked out

Return Count Media

Lambert N/S Coordinate Lambert E/W Coordinate

MODE: query Owner SYSTEM Control Ø

FiHelp SF1Code SF2Save SF5SQL F7Clr F8Exit F9Next SF9Back F10Exec SF10Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

__SAMPLE_

Sample Number B01WZ5
Assigned By OSM
Assigned Date 02/05/92

Assigned To D. Z. FARRIS/EDM

Generation Date 01/29/92

Status C Checked out

Return Count

Media

Lambert N/S Coordinate Lambert E/W Coordinate

MODE: auery Owner SYSTEM Control @

F1Help SF1Code SF2Save SF5SQL F7Clr F8Exit F7Next SF7Back F1@Exec SF1@Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

---SAMPLE ---

Sample Number B01WZ6
Assigned By OSM
Assigned Date 02/05/72
Assigned To D. Z. FARRIS/EDM
Generation Date 01/29/92

Status C Checked out

Return Count Media

Lambert N/S Coordinate

Lambert E/W Coordinate

MODE: auery Owner SYSTEM Control 0

F1Help SF1Code SF2Save SF3SQL F7Clr F8Exit F7Next SF7Back F10Exec SF10Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

SAMPLE

Sample Number B01WZ7 Assigned By OSM Assigned Date 02/05/92 Assigned To D. Z. FARRIS/EDM Generation Date 01/29/92

MODE: guery Owner SYSTEM Control 0

MODE: auery

Owner SYSTEM

Control 0

Status C Checked out

Return Count

Media

Lambert N/S Coordinate

Lambert E/W Coordinate

FiHelp SF1Code SF2Save SF5SQL F7Clr F8Exit F9Next SF9Back F10Exec SF10Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

___SAMPLE____

Sample Number 801WZ8 Assigned By OSM Assigned Date 02/05/92 Assigned To D. Z. FARRIS/EDM Generation Date 01/29/92 Status C Checked out Return Count

Media

Lambert N/S Coordinate

Lambert E/W Coordinate

F1Help SF1Code SF2Save SF5SQL F7Clr F8Exit F7Next SF7Back F10Exec SF10Count Esc-chr: ^] help: ^]? port:U speed:unkwn parity:none echo:rem VT320

CORRESPONDENCE DISTRIBUTION COVERSHEET

To: Distribution

From: Environmental Quality Assurance H4-16 / 6-8557 / 6-9490

subject: DISTRIBUTION OF NCR #B07704 (EQA-92-008)

INTERNAL	DISTRIBUTION

Approval	Date	Name	Location	w/att
		D. L. Edwards	T6-08	
		J. H. Kessner	T6-08	
		G. S. Corrigan	H4-16	
		N. M. Naiknimbalkar	H4-55	
		APA	B5-20	
		QUEST	L4-86	
		EQA File	H4-16	

Jeanth Money Karl



VALIDATION SUMMARY

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INORGANIC ANALYSIS DATA VALIDATION CHECKLIST - FORM A-6

PROJECT: West national	REVIEWER: SE	DATE: 10/2/0/92
LABORATORY: TMA	CASE:	SDG: 80/850 1
SAMPLES/MATRIX: 5014		
BO18JO, BO18P9.		;

1. COMPLETENESS AND CONTRACT COMPLIANCE

Review the data package for completeness and check off the items below. If any data review elements are missing contact the laboratory for submittal of the omitted data.

Data Package Item	Present?:	Yes	No	N/A
Case Narrative		4		
Cover Page		-		
Traffic Reports		_		
Sample Data				
Inorganic Analysis Data Sheets		<u> </u>		
Standards Data				
Initial and Continuing Calibration Verification CRDL Standard for AA and ICP		4	_	_
QC Summary				
Blanks		4		
ICP Interference Check Summary		4		
Spike Sample Recovery		4	_	
Post-Digestion Spike Sample Recovery			_	
Duplicate		/	_	
Laboratory Control Sample		/		_
Standard Addition Results			_	_
ICP Serial Dilutions		/- /	_	_
Instrument Detection Limits		/	_	
ICP Interelement Correction Factors			_	_
ICP Linear Ranges		+	_	
Preparation Log		/	_	
Analysis Run Log		//	_	_
Raw Data				
ICP Raw Data			/ —	
Furnace AA Raw Data		4	/ —	_
Mercury Raw Data			/ —	_
Cyanide Raw Data		4	_	
Additional Data				
Internal laboratory chain-of-custody Laboratory Sample Preparation Records		1	_	=

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Data Package Item	Present?:	Yes	No	N/A	
Percent Solids Analysis Records Reduction Formulae Instrument Run Logs Chemist Notebook Pages		<u>/</u>	X =	=	
2. HOLDING TIMES					
Have all samples been analyzed within holding times?		Yes	No	N/A	
ACTION: If any holding times have been exceeded qualify detects and UJ for nondetects).	all affected resu	ilts as est	imated ((J for	
3. INITIAL CALIBRATIONS					
Were all instruments calibrated daily, each set-up time and were the proper number of standards used?		Yes	No	N/A	
Are the correlation coefficients ≥0.995?		Yes	No	N/A	
Was a midrange cyanide standard distilled?		YES	No	N/A	
ACTION: Qualify all data as unusable if reported from an calibrated or was calibrated with less than the minimum nursample results > IDL as estimated (J) and results < IDL as coefficient is < 0.995 or the laboratory did not distill the m	mber of standard estimated (UJ),	s. Qualify if the cor	associ relation	ated	
4. INITIAL AND CONTINUING CALIBRATION VERI	FICATION	5			
Are ICV and CCV percent recoveries within control?		Yes	No	N/A	
Are there calculation errors?		Yes	No	N/A	
ACTION: Qualify all affected data in accordance with Sec calculation errors are noted, contact the laboratory for clari		alidation	require	ments.	lf
5. ICP INTERFERENCE CHECK SAMPLE					
Has an ICS sample been analyzed at the proper frequency?		Yes	No	N/A	
Are the AB solution %R values within control?		YA	No	N/A	
Are there calculation errors?		Yes	No	N/A	
ACTION: Qualify all affected data in accordance with Secalculation errors are noted, contact the laboratory for clar	ction 8.3 of the vification.	validation	require	ments.	If

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6. LABORATORY BLANKS

Are target analytes present in the laboratory blanks?

Yes No N/A

ACTION: Qualify all associated sample results for any analyte < 5 times the amount in any laboratory blank as nondetected (U). If analyte concentrations in the blank are > CRDL or below the negative CRDL, verify the laboratory has redigested and reanalyzed associated samples with analyte concentrations < 10 times the blank concentration. If the laboratory has not redigested and reanalyzed the samples, note in the validation narrative.

7. FIELD BLANKS

Are target analytes present in the field blanks?

Yes No N/A

ACTION: Qualify all sample results for any analyte < 5 times the amount in any valid field blank as nondetected (U).

8. MATRIX SPIKE SAMPLE ANALYSIS

Are spike recoveries within the control limits?

Yes No N/A

ACTION: Qualify the affected sample data according to the following requirements:

If spike recovery is > 125% and sample results are < IDL no qualification is required. If spike recovery is > 125% or < 75% qualify all positive results as estimated (J). If spike recovery is 30% to 74% qualify all nondetects as estimated (UJ). If spike recovery is < 30%, reject all nondetects (R). If the field blank has been used for spike analysis, note in the validation narrative.

9. LABORATORY CONTROL SAMPLE

Are percent recoveries within the acceptance limits?

Yes

No N

Are there calculation errors?

Yes

o N/A

ACTION: Qualify the sample data according to the following requirements:

AQUEOUS LCS - Qualify as estimated (J), all sample results > IDL, for which the LCS %R falls within the range 50-79% or > 120%. Qualify as estimated (UJ), all sample results < IDL, for which the LCS falls within the range of 50-79%. Qualify as unusable (R) all sample results, for which the LCS %R < 50%.

SOLID LCS - Qualify as estimated (J), all sample results > IDL for which the LCS result is outside the established control limits. Qualify as estimated (UJ), all sample results < IDL for which the LCS %R are lower than the established control limits.

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10. PERFORMANCE AUDIT ANALYSES

Are the performance audit sample results within the acceptance limits?

Yes No

N/A

ACTION: Note the results of the performance audit sample analyses in the data validation narrative.

11. DUPLICATE SAMPLE ANALYSIS

Are RPD values acceptable?

Yes

No

NIA

ACTION: Qualify the results for all associated samples of the same matrix as estimated (I) if the RPD results fall outside the appropriate control limits. If field blanks were used for laboratory duplicates, note in the validation narrative.

12. ICP SERIAL DILUTION

Are the serial dilution results acceptable?

(1

No

N/A

Is there evidence of negative interference?

Yes

0

N/A

ACTION: Qualify the associated data as estimated (I) for those analytes in which the D is outside the control limits. If evidence of negative interference is found, use professional judgment to qualify the data.

13. FIELD DUPLICATE SAMPLES

Do the RPD values exceed the control limits?

Yes

No

N/A

ACTION: Note the results of the field duplicate samples in the validation narrative.

14. FIELD SPLIT SAMPLES

Do the RPD values exceed the control limits?

Yes

No

N/A

ACTION: Note the results of the field split samples in the validation narrative.

1516. FURNACE ATOMIC ABSORPTION QUALITY CONTROL

Do all applicable analyses have duplicate injections?

Yes

lo N/A

Are applicable duplicate injection RSD values within control?

Yes

No

N/A

If no, were samples rerun once as required?

100

No N/A

No

Yes

N/A

Does the RSD for the rerun fall within the control limits?

163

NI

Were analytical spike recoveries within the control limits?

Yes

N/A

97 (3506, 1993

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If no, were MSA analyses performed when required?

Yes No N/A

Are MSA correlation coefficients ≥ 0.995 ?

Yes No N/A

If no, was a second MSA analysis performed?

Yes No N/A

ACTION: If duplicate injections are outside the acceptance limits and the sample has not been reanalyzed or the reanalysis is outside the acceptance limits, qualify the associated data as estimated (J for detects and UJ for nondetects). If the analytical spike recovery is <40% qualify detects as estimated (J). If the analytical spike recovery is $\ge10\%$ but <40%, qualify all nondetects as estimated (UJ) and if the analytical spike recovery is <10%, reject all nondetects (R). If the sample absorbance is <50% of the analytical spike absorbance and the analytical spike recovery is <85% or >115%, qualify all results as estimated (J for detects and UJ for nondetects). If method of standard additions (MSA) was required but was not performed, the MSA samples were spiked incorrectly, or the MSA correlation coefficient was <0.995, qualify the associated detected results as estimated (J).

17. ANALYTE QUANTITATION AND DETECTION LIMITS

Have results been reported and calculated correctly?

Are results within the calibrated range of the instruments and within the linear range of the ICP?

Yes No N/A

Are all detection limits below the CRQL?

Yes No N/A

Action: If analyte quantitation is in error, contact the laboratory for explanation. If errors or deficiencies can not be resolved with the laboratory, qualify associated data as unusable (R).

18. OVERALL ASSESSMENT AND SUMMARY

Has the laboratory conducted the analysis in accordance with the analytical SOW?

Were project specific data quality objectives met for this analysis?

ACTION: Summarize all the data qualifications and complete the data validation narrative as specified in Section 10.0 of the data validation requirements.

N/A

9713506.000 TINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER :

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

BØ18JØ

Lab Code: SKINER Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-015

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

91.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	: Analyte :	Concentration C Q	
7429-90-5	· Aluminum	5620.00	-¦¦
7440-36-0			
7440-38-2		1.70 U N	!P !
7440-39-3		3.00	IF !
		60.201 E	1P 1
7440-41-7	,, ,,	0.21;U;	IP I
7440-43-9		0.21;U;	P
7440-70-2		7500.00:	IP !
	Chromium !	10.80!	(P (
7440-48-4	Cobalt	8.60 B;	IP I
7440-50-8		24.20!	1P 1
7439-89-6	Iron !	15800.00;	IP I
7439-92-1	Lead !	3.401	(F.)
7439-95-4	Magnesium!	4710.00	IP I
7439-96-5	Manganese	302.00! N	!P !
7439-97-6	Mercury	0.10;U;	(CV)
7440-02-0	Nickeland	11.70	IP !
	Potassium	825.00 B!	IP !
7782-49-2	Selenium !	0.81!U! W	!F !
7440-22-4		0.42 U	!P !
7440-23-5		133.00 B	(P
	Thallium	0.41!U!	!F !
7440-62-2		34.80	IP I
7440-66-6	Zinc	35.40	IP I
	Cyanide :	5.50 U	AS
	!	0.00101	

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts: YES

Comments:

STONES

9713506_0895STINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

BØ18P9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-00-0108

Lab Code: SKINER Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-028

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

96.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration C Q	m
7429-90-5	Aluminum	3610.00	P
7440-36-0	Antimony	1.50(U) N	1P 1
7440-38-2	Arsenic	1.30 B!	:F :
7440-39-3	Barium	67.40! E	!P !
7440-41-7	Beryllium	0.38 B	IP !
7440-43-9	Cadmium	0.19 U	1P 1
7440-70-2	Calcium	2560.00! !	!P !
7440-47-3	Chromium	11.00: :	IP :
7440-48-4	Cobalt	3.30 B	P
7440-50-8	Copper	10.50!	1P 1
7439-89-6	Iron	6620.00! !	P
7439-92-1	Lead	2.30	IF. 1
7439-95-4	Magnesium	2920.00	IP I
7439-96-5	Manganese	432.00! N	1P :
7439-97-6	Mercury	0.09 U	CV
7440-02-0	Nickel	17.10	IP!
7440-09-7	Potassium	663.00 B	IP !
7782-49-2	Selenium	0.81;U;	(F (
7440-22-4	Silver	0.38 U	IP I
7440-23-5	Sodium	129.00 8	IP !
7440-28-0	Thallium	0.41 U	\F
7440-62-2	Vanadium	12.70!	IP :
7440-66-6	Zinc	16.90	IP :
	Cyanide	5.00:0:	AS!
	!		11

Color Before: BROWN

Clarity Before:

Texture: FINE

y a men i je je doge a kajiri

Color After: BROWN

Clarity After:

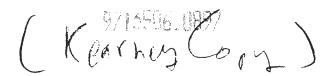
Artifacts: YES

Comments:

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0 (c	neck one b	ox):		MAILING ADDRESS:	PREPARED BY	:		DATE PREPARED:		
[x]	ERE Fiel Environm	d Files, N3-05 d Files, H4-55 ental Data Manageme ental Administrativ	ent Center, H4-22 ve Records, H4-22	Westinghouse Hanford Company c/o EDMC, H4-22 P.O. Box 1970 Richland, WA 99352	NAME, AFFILIATION: J. M. Duncan, WHC BLDG, ROOM, AREA: MO-028, 200-W ADDRESS: Richland, WA 99352 ORG. TITLE: Office of Sample Management			PHONE: 3-	SIN: T6-08 HONE: 3-3351 PRG. CODE: 12500	
			TO BE COMPLETED E	Y SENDER, EXCEPT SHADED AREAS,	WHICH ARE COM	PLETED BY 1	HE RECIPIE	ENT		
TEM	DATE	ID NUMBER				ou	TSD	TASK/SUBTASK	PAGE	FILE NUMBER
	3-24-92	N2-01-165	the 100-DR-1 pp 8018J0-TMA-148 Laboratory Data transmittal XO is as follows:	Thermo Analytical, Analytical Laboratory Data Package for the 100-DR-1 project. The OSM data package ID number is 8018J0-TMA-148. This is an Addendum Metals Analytical Laboratory Data Package previously transmitted on transmittal X00818. The sample and subset data reported is as follows:						
				e # N2-01-165) Analytical Labora (sample number B018J0),	tory Data	100-DR-1				
				e # N2-01-165) Analytical Labora (sample number B018P9).	atory Data	100-HR-3				
MUE	Yes Date	la bolog trans-la	and without one	rification or validation. Data	uill be veli	dated by		RECEIVED BY:		DATE:
fsit	gnature b	tor. elow certifies that		bmitted by this transmittal have				Worka Ellin	junth	8/11/9 DATE:
M	Dicessing.	- 0,7	t 10.	uncau	DAT	9/11	192			



ATTACHMENT 1 DATA TABLE

Collection date: 1/16/92

6/26 = Smy 1 dute

Customer I.D.	TMA/Norcal Group No. 7009	Analysis	Results pCi/g ± 2 σ	
B018P9 (soil)	1	Gross Alpha Gross Beta ¹⁴ C ⁹⁰ Sr ⁹⁹ Tc Gamma Scan:	(9.35 ± 2.10) E $(3.75 (13.23 \pm 5.88))$ E (2.6 ± 3.2) E	+00 R- +00 +00 R(5) -01 R(5)
		40K 51Cr 60Co 65Zn 134Cs 137Cs 226Ra 228Th 232Th	17.39 < 1.739 E 1.590 $1.$	+01 +01 U -02 W -01 W -02 U -02 U -01 -01 -01

RB 10/8

X01150 HR-3 GWDrilling

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018P9 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA fatrix: (soil/water) SOIL Lab Sample ID: A201088-01D 5.0 (g, X00818 Sample wt/vol: File ID: 20123R14 Level: (low/med) LOW Received: 01/21/92 Moisture: not dec. __8 Analyzed: 01/23/92 Column: (pack/cap) PACK_ tion Factor: 1.0 HR-3 GWA CUNCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q 74-87-3-----Chloromethane U 11 74-83-9-----Bromomethane U 11 75-01-4-----Vinyl Chloride 11 U 75-00-3-----Chloroethane U 11 BBD U 75-09-2-----Methylene Chloride 21 67-64-1------Acetone 4 5 75-15-0-----Carbon Disulfide 5 U 75-35-4-----1,1-Dichloroethene 5 U 75-34-3-----1,1-Dichloroethane 6/23/93 5 540-59-0----1,2-Dichloroethene (total) U 5 67-66-3-----Chloroform U 5 U 107-06-2----1, 2-Dichloroethane 78-93-3----2-Butanone 11 U 71-55-6-----1,1,1-Trichloroethane_ 5 U 5 U 56-23-5-----Carbon Tetrachloride U 108-05-4-----Vinyl Acetate 11 U 5 75-27-4-----Bromodichloromethane 5 U 78-87-5-----1,2-Dichloropropane 5 10061-01-5----cis-1,3-Dichloropropene U 5 U 79-01-6----Trichloroethene 5 124-48-1-----Dibromochloromethane U 5 U 79-00-5----1,1,2-Trichloroethane 5 U 71-43-2----Benzene 5 10061-02-6----trans-1,3-Dichloropropene U 5 U 75-25-2----Bromoform 11 U 108-10-1----4-Methyl-2-Pentanone 11 U 591-78-6----2-Hexanone U 127-18-4-----Tetrachloroethene 5 5 79-34-5----1,1,2,2-Tetrachloroethane U 108-88-3-----Toluene 5 U 5 U 108-90-7-----Chlorobenzene 5 U 100-41-4-----Ethylbenzene 5 U 100-42-5----Styrene 1330-20-7-----Xylene (Total) 5 U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018P9	

Lab Name: TMA/ARLI	Contract: WHC
Lab Code: TMALA Case No.: 01088	SAS No.: NA SDG No.: NA
Matrix: (soil/water) SOIL	Lab Sample ID: A201088-01D
Sample wt/vol: 5.0 (g/mL) G	Lab File ID: 20123R14
Level: (low/med) LOW	Date Received: 01/21/92
* Moisture: not dec8	Date Analyzed: 01/23/92
Column (pack/cap) PACK	Dilution Factor: 1.0
Number TICs found:0	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER COMPOUND NAME RT EST. CONC. Q

4123 M3 KB

00007 EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B018P9

Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20131N06 Level: (low/med) LOW Date Received: 01/21/92 % Moisture: not dec. ___8 dec. Date Extracted: 01/24/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92 GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00 CONCENTRATION UNITS: CAS NO. COMPOUND Q (ug/L or ug/Kg) UG/KG IUJ 108-95-2----Phenol 360 111-44-4----bis(2-Chloroethyl)Ether 360 U U 95-57-8----2-Chlorophenol 360 360 U 541-73-1----1,3-Dichlorobenzene 106-46-7----1,4-Dichlorobenzene 360 U 100-51-6----Benzyl Alcohol 360 U 360 95-50-1----1,2-Dichlorobenzene U RB 95-48-7----2-Methylphenol 360 U 108-60-1-----bis(2-Chloroisopropyl)Ether U 360 106-44-5----4-Methylphenol 360 U 621-64-7----N-Nitroso-Di-n-Propylamine 360 ľŪ U 67-72-1-----Hexachloroethane 360 98-95-3----Nitrobenzene IU 360 78-59-1-----Isophorone 360 U 88-75-5----2-Nitrophenol 360 U 105-67-9----2,4-Dimethylphenol IU 360 1700 U 65-85-0-----Benzoic Acid 111-91-1-----bis(2-Chloroethoxy) methane 360 U 360 U 120-83-2----2,4-Dichlorophenol U 120-82-1----1,2,4-Trichlorobenzene 360 360 U 91-20-3-----Naphthalene 106-47-8-----4-Chloroaniline 360 U 87-68-3-----Hexachlorobutadiene 360 U 360 IU 59-50-7----4-Chloro-3-methylphenol U 360 91-57-6----2-Methylnaphthalene U 77-47-4-----Hexachlorocyclopentadiene 360 88-06-2----2,4,6-Trichlorophenol 360 U 95-95-4----2,4,5-Trichlorophenol U 1700 UV 91-58-7----2-Chloronaphthalene 360 1700 UJ 88-74-4----2-Nitroaniline 131-11-3-----Dimethyl Phthalate 360 एउ 360 208-96-8-----Acenaphthylene UT

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

00008
EPA SAMPLE NO.

B018P9

Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A Lab File ID: 20131N06 Sample wt/vol: 30.2 (g/mL) G Date Received: Level: (low/med) LOW 01/21/92 % Moisture: not dec. 8 dec. Date Extracted: 01/24/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92 Dilution Factor: 1.00 pH: 9.6 GPC Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND Q (ug/L or ug/Kg) <u>UG/KG</u> UUI 99-09-2----3-Nitroaniline 1700 360 83-32-9-----Acenaphthene UJ 51-28-5----2,4-Dinitrophenol 1700 CUI 100-02-7----4-Nitrophenol 1700 U 360 132-64-9-----Dibenzofuran 360 IU 121-14-2----2,4-Dinitrotoluene 606-20-2----2,6-Dinitrotoluene 360 U 84-66-2-----Diethylphthalate 360 U 7005-72-3----4-Chlorophenyl-phenylether 360 U 360 U 86-73-7-----Fluorene שטו 100-01-6----4-Nitroaniline 1700 UJ 534-52-1----4,6-Dinitro-2-methylphenol 1700 86-30-6----N-Nitrosodiphenylamine (1) 360 U U 360 101-55-3----4-Bromophenyl-phenylether 118-74-1-----Hexachlorobenzene 360 U 87-86-5-----Pentachlorophenol 1700 U 85-01-8-----Phenanthrene 360 U UJ 120-12-7-----Anthracene 360 84-74-2----Di-n-Butylphthalate 360 U 206-44-0----Fluoranthene U 360 U 360 129-00-0-----Pyrene 85-68-7-----Butylbenzylphthalate 360 U 91-94-1----3,3'-Dichlorobenzidine U 710 56-55-3-----Benzo(a)anthracene 360 U UV 360 117-81-7-----bis(2-Ethylhexyl)Phthalate U 218-01-9-----Chrysene 360 117-84-0-----Di-n-octyl Phthalate 360 U 205-99-2----Benzo(b) fluoranthene 360 IU W UJ 207-08-9----Benzo(k) fluoranthene 360 U 50-32-8-----Benzo(a)pyrene 360 U 193-39-5----Indeno(1,2,3-cd)Pyrene 360 53-70-3-----Dibenz(a,h)Anthracene 360 U 360 I U & 191-24-2----Benzo(g,h,i)perylene (1) - Cannot be separated from Diphenylamine

Lab Name: TMA/ARLI Contract: WHC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B018P9

Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 20131N06

Level: (low/med) LOW Date Received: 01/21/92

% Moisture: not dec. ____ 8 dec. ____ Date Extracted: 01/24/92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/31/92

GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00

Number TICs found: 10

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	2.38	940	
2.	UNKNOWN ALCOHOL	2.85	22000	を発展する
3.	UNKNOWN ALCOHOL	2.93	220	BJ .
4.	UNKNOWN ALCOHOL	4.03	290	BO V
5.	UNKNOWN CARBOXYLIC ACID	21.54	180	J
6.	UNKNOWN ALKANE	26.04	140	J
7.	UNKNOWN ALKANE	27.27	220	J
8.	UNKNOWN ALKANE	28.47	360	J
9.	UNKNOWN ALKANE	29.62	250	J
10.	UNKNOWN ALKANE	30.72	140	J

97 13506-0903

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B018P9 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 01088 SAS No.: NA SDG No.: NA Matrix: (soil/water) SOIL Lab Sample ID: A201088-01A Sample wt/vol: 30.3 (g/mL) G Lab File ID: Level: (low/med) LOW Date Received: 01/21/92 % Moisture: not dec. _8 dec. __ Date Extracted: 01/27/92 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/12/92 GPC Cleanup: (Y/N) N pH: 9.6 Dilution Factor: 1.00 CONCENTRATION UNITS: COMPOUND CAS NO. (ug/L or ug/Kg) <u>UG/KG</u> Q 8.6 UJ 319-84-6-----alpha-BHC 319-85-7-----beta-BHC 8.6 U 319-86-8-----delta-BHC 8.6 U 8.6 U 58-89-9-----gamma-BHC (Lindane) 76-44-8-----Heptachlor_ 8.6 U 309-00-2-----Aldrin 8.6 U 1024-57-3-----Heptachlor epoxide 8.6 U 959-98-8-----Endosulfan I 8.6 U 60-57-1-----Dieldrin 17 U 72-55-9-----4,4'-DDE 17 U 72-20-8-----Endrin 17 U 33213-65-9----Endosulfan II U 17 72-54-8-----4,4'-DDD 17 U 1031-07-8-----Endosulfan sulfate U 17 50-29-3-----4,4'-DDT 17 U 72-43-5-----Methoxychlor U 86 53494-70-5----Endrin ketone U 17 5103-71-9----alpha-Chlordane U 86 U 5103-74-2----gamma-Chlordane 86 8001-35-2----Toxaphene 170 U 12674-11-2----Aroclor-1016 U 86 11104-28-2----Aroclor-1221 86 U U 11141-16-5-----Aroclor-1232 86 U 53469-21-9----Aroclor-1242 86 12672-29-6-----Aroclor-1248 86 U 11097-69-1----Aroclor-1254 170 U U 11096-82-5-----Aroclor-1260 170

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INORGANIC ANALYSIS DATA SHEET

SAMPLE	NUMBER
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BØ18P9

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-028

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

96.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration C Q	m 10/28/92
7429-90-5	Aluminum	3610.00	P
7440-36-0	Antimony	1.50 U! NUT	IP! (YM)
7440-38-2	Arsenic	1.30 B;	IF I
7440-39-3	Barium	67.40! : #J	IP
7440-41-7	Beryllium		IP !
7440-43-9	Cadmium	0.19 U U	IP!
7440-70-2	Calcium	2560.00	IP!
7440-47-3	Chromium	11.00!	IP !
7440-48-4	Cobalt	3.30!B!	IP I
7440-50-8	Copper	10.50!	IP :
7439-89-6	Iron	6620.00:	IP I
7439-92-1	Lead	2.30	IF
	Magnesium	2920.00	IP.
	Manganese		1P 1 1 19 19 19 19 19 19 19 19 19 19 19 19
7439-97-6		0.09 U	ICVI.
7440-02-0	war a mar ber t Berte.	17.10	P
7440-09-7	Potassium	663.00 B	P
7782-49-2	Selenium	0.81 U	IF I
7440-22-4	Silver	0.38!U!	P
7440-23-5	Sodium	129.00 B	IP!
7440-28-0	:Thallium	0.41 U	IF !
7440-62-2	Vanadium	12.70!	(P)
7440-66-6	Zinc	16.90	IP
	Cyanide	5.00:01	IAS!
	1	1 1	1 1 /

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts: YES

Comments:

STONES

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INORGANIC ANALYSIS DATA SHEET

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: -			- :
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Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Level (low/med): LOW

Lab Sample ID: 01152-028

Date Received: 01/22/92

% Solids:

96.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration C Q	m
7429-90-5	Aluminum	3610.00	
7440-36-0	Antimony	1.50 UI N T	IP I
7440-38-2	Arsenic	1.30 B	IF I
7440-39-3	Barium	67.40! LET	P
7440-41-7	Beryllium	. /	IP I
	Cadmium	0.19:01	IP I
7440-70-2	Calcium	2560.00	IP I
7440-47-3	Chromium	11.00!	IP I
7440-48-4	Cobalt	3.30 B	IP I
7440-50-8	Copper	10.50	IP !
7439-89-6	Iron	6620.00	IP I
7439-92-1	Lead	2.30	IF. I Comment of the second
7439-95-4	Magnesium	2920.00	Piping
7439-96-5	Manganese	432.00! INT	IP I
7439-97-6	Mercury	0.09 U	CV
7440-02-0	Nickel	17.10	IP TO THE STATE OF
7440-09-7	Potassium	663.00 B	IP I
7782-49-2	Selenium	0.81 U	F
7440-22-4	Silver	0.38 U	P 1/1/935C
7440-23-5	Sodium	129.00 B	IP : 1-16356
7440-28-0	Thallium	0.41;U;	1F: 7/7/7
7440-62-2	!Vanadium	12.70; ;	IP!
7440-66-6	Zinc	16.90	P
	Cyanide	5.00:0:	:AS!
	.1		_11

Color Before: BROWN

Clarity Before:

Texture: FINE

Color After: BROWN

Clarity After:

Artifacts: YES

Comments:

STONES

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Rev. 6/89

. 97/3506. OMESTINGHOUSE/HANFORD

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B018J0

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N2-01-165SAS No.: SDG No.: B018J0

Matrix (soil/water): SOIL

Lab Sample ID: 01152-018

Level (low/med): LOW

Date Received: 01/22/92

% Solids:

91.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	108/92
7429-90-5	Aluminum	5620.00	-		P	1000
7440-36-0	Antimony	1.70	U	(EUM	P	CAN
7440-38-2	Arsenic	3.00			F	
7440-39-3	Barium	60.20	1	E (J)	P	
7440-41-7	Beryllium	0.21	U	Ú	P	1
7440-43-9	Cadmium	0.21	U	U	P	
7440-70-2	Calcium	7500.00	!	1	P	
7440-47-3	Chromium	10.80	1		P	1
7440-48-4	Cobalt	8.60	B		P	
7440-50-8	Copper	24.20	•		P	
7439-89-6	Iron	15800.00			P	
7439-92-1	Lead 1	3.40		BENEVE .	F	the War and the same of the same of
7439-95-4	Magnesium	4710.00	1	The state of the s	P	The water the state of the stat
7439-96-5	Manganese	302.00	10	WJ -	P.	to protect with the few land
7439-97-6	Mercury	0.10	U	1 17 17 17 11	CV	I was at A commercial in
7440-02-0:	Nickelan	11.70	13.	是他的	P	
7440-09-7	Potassium	825.00	B	Harrison Harrison	P	of a transfer of the second
7782-49-2	Selenium	0.81	!U	WUJ.	F	Property of the second
7440-22-4	Silver	0.42			P	
7440-23-5	Sodium	133.00			P	
7440-28-0	Thallium	0.41	U	1	F	1
7440-62-2	Vanadium	34.80			!P	
7440-66-6	Zinc	35.40		1	P	
	Cyanide	5.50		1	AS	1 .1.
	!		!	1	•	1 11/

Color Before: BROWN

Clarity Before:

FINE Texture:

Color After: BROWN

Clarity After:

Artifacts: YES

Comments: STONES

ATTACHMENT 1 DATA TABLE

Collection date: 1/15/92

Customer I.D.	TMA/Norcal Group No. 7010	Analys	is	Results pCi/g ± 2 σ	
BO18T5	1	Gross	Alpha	(4.62 ± 4.62)	E+00
(soil)		Gross		(7.48 ± 2.90)	E+00
		14C		(40.36 ± 6.83)	E+00
		⁹⁰ Sr		(1.9 ± 3.1)	E-01
		234U		(4.0 ± 0.7)	E-01
		235 _U		(3 ± 2)	E-02
		238 _U		(4.2 ± 0.7)	E-01
		²³⁸ Pu		(2 ± 3)	E-02
		²³⁹ Pu		(-1 ± 2)	E-02
		241Am		(4.76 ± 0.979)	E-01
		Gamma	Coon:	(4.70 ± 0.979)	E-OI
		Gaillia	40K	(1.105 ± 0.203)	E . 01
			51Cr	<3.597	E+01
			60Co		E+01
			65Zn	<1.534	E-01
			134Cs	<4.849	E-01
				<1.576	E-01
			¹³⁷ Cs	<1.327	E-01
			²²⁶ Ra	(6.184 ± 2.977)	E-01
			²²⁸ Th	(8.998 ± 2.418)	E-01
			²³² Th	<7.058	E-01
B018J0	2	Gross	Alpha	(4.95 ± 10.4)	E+00
(soil)		Gross	Beta	(13.3 ± 4.85)	E+00
		14C		(25.06 ± 6.16)	E+00
		⁹⁰ Sr		(-0.18 ± 1.89)	E+00
		234U		(5.1 ± 0.7)	E-01
		235 _U		(1 ± 2)	E-02
		238 _U		(4.6 ± 0.6)	E-01
		²³⁸ Pu		(-1 ± 2)	E-02
. 1		239Pu		(-1 ± 2)	E-02
01268		241Am		(2.79 ± 4.79)	E-02
0100		Gamma	Scan:	(=:::= ::::)	
-0-1	then il -	Camana	⁴⁰ K	(1.059 ± 0.215)	E+01
1)/2	D'Occamo		51Cr	<4.319	E+01
a limm	Dichements.		⁶⁰ Co	<1.522	E-01
Sodu)		⁶⁵ Zn	<5.253	E-01
(75)			134Cs	<1.632	E-01
C /			137Cs	<1.239	E-01
			²²⁶ Ra	(4.901 ± 1.988)	E-01
			²²⁸ Th	(1.020 ± 0.229)	E+00
			²³² Th	(7.117 ± 4.410)	
			111	(7.11/ ± 4.410)	E-01

ATTACHMENT 1 DATA TABLE

Collection date: 1/15/92

Customer I.D.	TMA/Norcal Group No. 7010	Analysis 4	MDA	Results pCi/g \pm 2 σ	
BO18T5	1	Gross Alpha	6,9	(4.62 ± 4.62)	E+00
(soil)	4	Gross Beta	7.0	(7.48 ± 2.90)	E+00
		14C	11	(40.36 ± 6.83)	E+00
		⁹⁰ Sr	.6	(1.9 ± 3.1)	E-01
		234 _U		(4.0 ± 0.7)	E-01
	>	235 _U		(3 ± 2)	E-02
		2380		(4.2 ± 0.7)	E-01
		298Pu		(2 ± 3)	E-02
	1	239Pu		(-1 ± 2)	E-02
	~	Gamma Scan:		(4.76 ± 0.979)	E-01
	~	40K		(1.105 ± 0.203)	E+01
		51Cr		<3.597	E+01
		⁶⁰ Co		<1.534	E-01
		⁶⁵ Zn		<4.849	E-01
		134Cs		<1.576	E-01
		137Cs		<1.327	E-01
		226Ra		(6.184 ± 2.977)	E-01
		228 _{Th}		(8.998 ± 2.418)	E-01
		²³² Th		<7.058	E-01
B018J0	2	Gross Alpha		(4.95 ± 10.4)	E+00 %
(soil)		Gross Beta		(13.3 ± 4.85)	E+00 /
		14C	11	(25.06 ± 6.16)	E+CO
		90Sr	. 0.6	(-0.18 ± 1.89)	E+00 V
		234U	-). DIU	(5.1 ± 0.7)	E-017
11-2.	-92	235 _U	6.0154	(1 ± 2)	E-02 U
11-2		238 _U	3.0106	(4.6 ± 0.6)	E-01
AD		238Pu	.0344	(-1 ± 2)	E-024
YLB	•	²³⁹ Pu	.04	(-1 ± 2)	E-02 4
		Gamma Scan:	.061	(2.79 ± 4.79)	E-024
		40K		(1.059 ± 0.215)	E+01
. 1		51Cr		<4.319	E+01 U
X014	63	60Co		<1.522	E-01 W
1014		65Zn		<5.253	E-01 M
		¹³⁴ Cs		<1.632	E-01 U
		137Cs		<1.239	E-01 U
		226Ra		(4.901 ± 1.988)	E-01
		228Th		(1.020 ± 0.229)	E+00
		²³² Th		(7.117 ± 4.410)	E-01
		TC-9	9 1.8	- 5 ±4, 9	E-1

TMA

ATTACHMENT 1 DATA TABLE

Collection date: 1/15/92

Customer I.D.	TMA/Norcal Group No. 7010	Analys	is	Results pCi/g ± 2 σ	
BO18T5	1	Gross	Alpha	(4.62 ± 4.62)	E+00
(soil)		Gross	Beta	(7.48 ± 2.90)	E+00
		14C		(40.36 ± 6.83)	E+00
		90Sr		(1.9 ± 3.1)	E-01
		234U		(4.0 ± 0.7)	E-01
		235 _U		(3 ± 2)	E-02
		238 _U		(4.2 ± 0.7)	E-01
		238Pu		(2 ± 3)	E-02
		239Pu		(-1 ± 2)	E-02
		241Am		(4.76 ± 0.979)	E-01
		Gamma			
			40K	(1.105 ± 0.203)	E+01
			51Cr	<3.597	E+01
			⁶⁰ Co	<1.534	E-01
			⁶⁵ Zn	<4.849	E-01
			134Cs	<1.576	E-01
			¹³⁷ Cs	<1.327	E-01
			²²⁶ Ra	(6.184 ± 2.977)	E-01
			²²⁸ Th	(8.998 ± 2.418)	E-01
			²³² Th	<7.058	E-01
B018J0	2		Alpha	(4.95 ± 10.4)	E+00
(soil)		Gross	Beta	(13.3 ± 4.85)	E+00
		14C		(25.06 ± 6.16)	E+00
		90Sr		(-0.18 ± 1.89)	E+00
		234U		(5.1 ± 0.7)	E-01
		235 _U		(1 ± 2)	E-02
		238 _U		(4.6 ± 0.6)	E-01
		²³⁸ Pu		(-1 ± 2)	E-02
		²³⁹ Pu		(-1 ± 2)	E-02
		241Am		(2.79 ± 4.79)	E-02
		Gamma			
			40K	(1.059 ± 0.215)	E+01
			51Cr	<4.319	E+01
			⁶⁰ Co	<1.522	E-01
			65Zn	<5.253	E-01
			134Cs	<1.632	E-01
			¹³⁷ Cs	<1.239	E-01
			²²⁶ Ra	(4.901 ± 1.988)	E-01
			²²⁸ Th	(1.020 ± 0.229)	E+00
			²³² Th	(7.117 ± 4.410)	E-01